

# UNCLASSIFIED

AD NUMBER
ADB018949
NEW LIMITATION CHANGE
TO Approved for public release, distribution unlimited
FROM Distribution authorized to U.S. Gov't. agencies only; Test and Evaluation; OCT 1976. Other requests shall be referred to Air Force Armament Lab., Eglin AFB, FL.
AUTHORITY
AFATL ltr, 1 Nov 1977

THIS PAGE IS UNCLASSIFIED

THIS REPORT HAS BEEN DELIMITED  
AND CLEARED FOR PUBLIC RELEASE  
UNDER DOD DIRECTIVE 5200.20 AND  
NO RESTRICTIONS ARE IMPOSED UPON  
ITS USE AND DISCLOSURE.

DISTRIBUTION STATEMENT A

APPROVED FOR PUBLIC RELEASE,  
DISTRIBUTION UNLIMITED,

AD B018949

AFATL-TR-76-120

# DEVELOPMENT OF A COMPUTER PROGRAM FOR STORE AIRLOADS PREDICTION TECHNIQUE

VOUGHT CORPORATION, SYSTEMS DIVISION  
P. O. BOX 5907  
DALLAS, TEXAS 75222

OCTOBER 1976

COPY AVAILABLE TO DDC DOES NOT  
PERMIT FULLY LEGIBLE PRODUCTION

FINAL REPORT: MAY - OCTOBER 1976

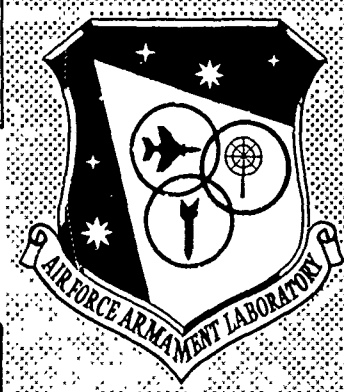
DDC  
JUN 15 1977  
RECEIVED

Distribution limited to U. S. Government agencies only;  
this report documents test and evaluation; distribution  
limitation applied October 1976 . Other requests for  
this document must be referred to the Air Force Armament  
Laboratory (DLJC), Eglin Air Force Base, Florida 32542.

## AIR FORCE ARMAMENT LABORATORY

AIR FORCE SYSTEMS COMMAND • UNITED STATES AIR FORCE

EGLIN AIR FORCE BASE, FLORIDA



AD No. \_\_\_\_\_  
DDC FILE COPY

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AFATL-TR-76-120 ✓	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) DEVELOPMENT OF A COMPUTER PROGRAM FOR STORE AIRLOADS PREDICTION TECHNIQUE	5. TYPE OF REPORT & PERIOD COVERED Final Report. May-1976 to October 1976	6. PERFORMING ORG. REPORT NUMBER Report No. 12-57110/6R-3329 ✓
7. AUTHOR(s) A. R./Rudnicki, Jr., M. H./McCloskey C. J./Neitzel	8. CONTRACT OR GRANT NUMBER(s) F08635-76-C-0237	9. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS Project No. 2567 Task No. 02 Work Unit No. 026
10. PERFORMING ORGANIZATION NAME AND ADDRESS Vought Corporation, Systems Division P. O. Box 5907 Dallas, Texas 75222	11. CONTROLLING OFFICE NAME AND ADDRESS Air Force Armament Laboratory Armament Development and Test Center Eglin Air Force Base, Florida 32542	12. REPORT DATE October 1976
13. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)  1222 F	14. SECURITY CLASS. (of this report) Unclassified	15. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Distribution limited to U. S. Government agencies only; this report documents test and evaluation; distribution limitation applied October 1976. Other requests for this document must be referred to the Air Force Armament Labora- tory (DLJC), Eglin Air Force Base, Florida 32542.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES Available in DDC		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Store Airloads Prediction Technique Wing-Mounted Single Stores Aerodynamic Loads		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report describes the development of a computer program for predicting six- component captive store aerodynamic loads for wing-mounted single stores. The program was developed from a portion of AFATL-TR-75-87, "External Store Airloads Prediction Technique," that the contractor developed for the Armament Develop- ment and Test Center (ADTC) under Contract No. F08635-73-C-0070. In addition, modifications to the prediction technique to increase the angle of attack range over which the yawing moment method is applicable are presented. Included in		

DD FORM 1473

EDITION OF 1 NOV 65 IS OBSOLETE  
S/N 0102-014-6601

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)



UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

ABSTRACT (CONCLUDED)

appendix form is a detailed user's operational guide to the system. The work reported here was performed under Contract No. F08635 76-C-0037 for the Air Force Armament Laboratory.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

## PREFACE

This report documents the results of work accomplished by Systems Division, Vought Corporation, P. O. Box 5907, Dallas, Texas 75222, under Contract No. F08635-76-C-0237 with the Air Force Armament Laboratory, Armament Development and Test Center, Eglin Air Force Base, Florida. Lt. Vayl S. Oxford (DLJC) managed the program for the Armament Laboratory. This effort was conducted during the period from May 1976 to October 1976.

This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER:

WILLIAM F. BROCKMAN, Colonel, USAF

Chief, Munitions Division

White Section  
BRI Section

INDEXED  
SERIALIZED

23  
C.C.P.

## TABLE OF CONTENTS

Section	Title	Page
I	INTRODUCTION . . . . .	1
II	COMPUTERIZATION OF STORE AIRLOADS PREDICTION TECHNIQUE . . . . .	3
	General Requirements. . . . .	3
	Approach to Computerization . . . . .	3
	Design of the Input Stream . . . . .	4
	Output Features. . . . .	7
	Multiple Run Capabilities. . . . .	9
III	APPLICATION OF COMPUTED RESULTS. . . . .	11
IV	MODIFICATION OF THE YAWING MOMENT TECHNIQUE. . . . .	13
V	ERRORS IN THE MANUAL TECHNIQUE . . . . .	27
VI	CONCLUSIONS AND RECOMMENDATIONS. . . . .	29
	REFERENCES . . . . .	30
Appendix A	User's Guide . . . . .	31

## LIST OF FIGURES

Figure	Title	Page
1	Organization of the Input Data . . . . .	6
2	Output Structure . . . . .	8
3	Typical Captive Store Side Force and Yawing Moment . . . . .	14
4	Correlation of $\alpha_{BREAK}$ as a Function of $\alpha_{0SF}$ . . . . .	16
5	Wing-Fuselage Height Definition . . . . .	17
6	Variation of $\Delta\alpha_{BREAK}$ with Mach Number . . . . .	21
7	Yawing Moment Modification Parameters - $K_{SLOPE}$ and $K_{INTC}$ . . . . .	22
8	Fuselage Interference Correction - $\Delta K_{SLOPE_{INTF}}$ . . . . .	23
9	Guide to Derivation of $\left(\frac{YM}{q}\right)_{\alpha=0_2}$ . . . . .	24

## LIST OF TABLES

Table	Title	Page
1	Corrections to the Data Base of Volume II, Book 2 of Reference 1. . . . .	28

# LIST OF SYMBOLS

$C_{LOCAL}$	Parent aircraft local wing chord, in.
$\frac{C_x}{qS}$	Force coefficient where x can be y, N, A representing side, normal, and axial force, respectively
$\frac{C_x}{qSd}$	Moment coefficient where x can be $\eta$ , m, $\ell$ representing yawing, pitching, and rolling moment, respectively
d	Store diameter, ft
HIGH WING	High wing aircraft
$\frac{h_w}{h_f}$	Parameter defining the parent aircraft wing-fuselage relationship
$K_{CPM}$	Pitching moment correlation factor
$K_{INTC}$	Factor describing the value of a dependent variable where the independent variable is zero
$K_{A1}$	Correlation factor to account for the sweep angle of the parent aircraft wing
$K_{SLOPE}$	Factor describing the rate of change of a dependent variable as a function of an independent variable
$\Delta K_{SLOPE_{INTF}}$	Incremental change in $K_{SLOPE}$ due to aerodynamic interference
L	Store length, in.
$L_n$	Store nose length, in.
LOW WING	Low wing aircraft
$\ell_{LE}$	Distance from the most forward point of the installed store to the wing leading edge as measured in the wing plan view, in.
PM	Pitching moment, ft. lb.
PPA .	Plan projected area, in. <sup>2</sup>
q	Free stream dynamic pressure, $\frac{lb.}{ft^2}$
S	Store reference area, $\frac{\pi d^2}{4}$ , ft <sup>2</sup>

# LIST OF SYMBOLS (CONCLUDED)

SF	Side Force, lb.
SPA	Side projected area, in. <sup>2</sup>
YM	Yawing moment, ft. lb.
$\alpha$	Aircraft angle of attack, deg
$\alpha_{\text{BREAK}}$	Angle of attack where yawing moment slope break occurs, deg
$\Delta\alpha_{\text{BREAK}}$	Incremental change in $\alpha_{\text{BREAK}}$ , deg
$\alpha_{0\text{SF}}$	Angle of attack where side force is zero, deg
$\beta_S$	Store yaw angle, deg
$\Delta$	Increment
$\psi_{A/C}$	Aircraft yaw angle, positive nose right, deg
$( )_{\alpha}$	$\frac{\partial ( )}{\partial \alpha}$
$( )_{\alpha=0}$	Value of ( ) where $\alpha = 0$

## SECTION I

### INTRODUCTION

This report and user's guide presents a computerized version of the wing-mounted single store airloads prediction methodology found in External Store Airloads Prediction Technique (Reference 1). The prediction technique reported in Reference 1 is somewhat time-consuming and tedious to use in its present form due to the multitude of manual computations required to complete a full six-component airloads solution. The computer routine developed during the current program and reported herein will eliminate most of the engineering effort required to evaluate captive store aerodynamic loads not only for current production aircraft-store configurations but also for new aircraft-weapons designs without resorting to expensive wind tunnel or flight tests. The technique should prove especially valuable for evaluation of new aircraft-weapons design in the preliminary design stages because of the rapid response now available using the computer program for chordwise, spanwise, and vertical variations in store location. Therefore, it permits trade studies to be conducted to minimize installed loads, for example, or to determine a location where the captive loads promote favorable separation. ✕

The yawing moment method of the basic technique has been extended during the current effort to include a broader range of angle of attack than previously presented. The improved yawing moment prediction has been incorporated into the computer program.

The computer routine developed during this program is an accurate representation of the manual technique plus improvements which includes six-component single carriage captive store airloads prediction capabilities for the basic airload as well as the incremental airloads due to aircraft yaw and adjacent store interference as detailed in Reference 1.



## SECTION II

### COMPUTERIZATION OF STORE AIRLOADS PREDICTION TECHNIQUE

A computer program has been developed that permits rapid prediction of store aerodynamic loads in the captive flow environment for wing-mounted single stores requiring only a knowledge of store isolated aerodynamics, flight conditions, and aircraft-store geometry.

The computer program was designed by considering the general and specific technical requirements outline by the Armament Development and Test Center (ADTC) and molding these requirements into a routine that is simple to input, duplicates the manual technique, and has the minimum possible storage requirements and execution time.

#### GENERAL REQUIREMENTS

General requirements for the subject effort were to develop a computer program that permits use of the wing-mounted single store portion delineated in AFATL-TR-75-87 (Reference 1) on the CDC 6600 computer at ADTC and, in addition, to extend the yawing moment method to include the full -4 to +12-degree angle-of-attack range included by the other five components. These requirements have been accomplished and are reflected in the computer routine described in this report.

#### APPROACH TO COMPUTERIZATION

Because the basic technique involves many steps of computation and data handling, this situation presents many options as to the formulation of a computer program. Some of the pertinent factors considered are:

1. Compromise between versatility and ease of input.
2. Readability with manual technique (Reference i).
3. Output options to meet military and industry needs.
4. Effective diagnostics to aid the user.
5. Minimize storage requirements and execution time.

The contractor's experience in aircraft/store design and certification programs aided significantly in evaluating the various options and in formulating an effective and efficient computer program.

The overall objectives were considered best satisfied by a computer program consisting of a main controlling routine that calls various subroutines to predict the airload components and provide supporting methodology. The details of the program, including a simplified flow chart schematic, nomenclature, input requirements, output description, and a sample problem, are presented and discussed in Appendix A; however, some of the salient features of the input deck, multiple run capabilities, and output features are discussed here.

#### Design of the Input Stream

The input data requirements for the computer program include Mach number, store reference length, dimensions of the store, dimensions of the aircraft, location of the store on the aircraft, and the isolated store aerodynamics. Some other parameters required for routine execution, such as store reference area, are calculated internally.

In order to provide the user with the most general and useful output, the predicted airloads are presented as coefficients in slope and intercept form, as discussed later. This approach

allows deletion of aircraft angle of attack, angle of sideslip, and altitude from the input stream, and allows the user to investigate the airloads at any number of flight conditions after obtaining the computer output.

The input data requirements were divided into six basic groups as shown in Figure 1. Each card in the input stream carries one of the descriptive names of Figure 1 in the first few columns of the card. A brief description of each of the six input groups follows:

- TITLE - TITLE cards contain alphanumeric descriptive information pertaining to the aircraft-store configuration to be run. Up to four TITLE cards may be included.
- STORE - STORE cards contain most of the required store geometry and isolated aerodynamic information. Up to five STORE cards can be required for a configuration, STORE1 through STORE5.
- A/C - A/C cards contain all parent aircraft geometry requirements. Two A/C cards are required for each configuration, A/C1 and A/C2.
- AERO - The AERO card contains the Mach numbers at which airloads predictions are required. Up to seven Mach numbers may be specified between Mach 0.5 and 2.0.
- OPTION - The OPTION card is used to specify the components for which predictions are required. A second field on this card is used to specify the components for which the internally looked-up variables are to be printed.
- SPA, PPA - SPA and PPA cards contain segmented store projected areas used in the initial prediction summation procedure.

TITLE - Header information

STORE - Store parameters

A/C - Aircraft geometry

AERO - Mach numbers

OPTION - Computer routine control

SPA, PPA - Store projected areas

Figure 1. Organization of the Input Data

### Output Features

The output features include four main sections: input data listing, store airloads predictions, diagnostic messages, and optional print of all variables looked up in the data base. These four categories of output appear in printed form, as shown in Figure 2.

The input data playback is always included in the output listing for user convenience. With the input data attached to the tabulated data, guesswork is eliminated as to what case the predicted loads data applies. In addition, errors in the input deck are readily traceable through the input deck listing.

The captive store airloads predictions follow the input data playback. The basic airload plus the incremental airloads due to aircraft yaw and adjacent store interference are grouped together for each of the six components, side force, yawing moment, normal force, pitching moment, axial force, and rolling moment. The six components are organized and printed in the identical manner found in the table of contents of Volume II, Book 2 of Reference 1. This organization aids in the readability and rapid association of the predicted values with the various sections of the manual technique. The coefficient data are presented in column form for each Mach number requested. After all component coefficients are presented, distance from store center-of-gravity to forward lug, store reference area, and store reference length data are presented. An asterisk to the immediate right of a coefficient indicates that the prediction was made using a parameter from the data base that was out of range or beyond the span of data used to derive the basic technique. An out-of-range warning is issued in the diagnostics section.

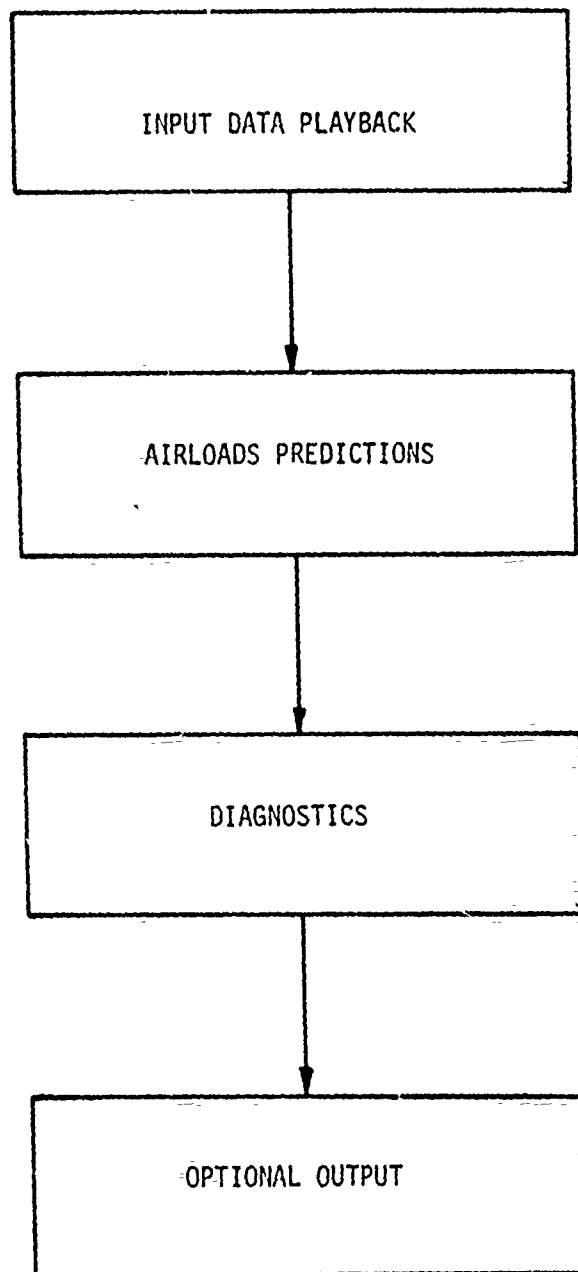


Figure 2. Output Structure

The next section of the output contains diagnostic messages for the benefit of the user. The diagnostics are divided into two types: general and out-of-range warnings. The general diagnostics include messages primarily about input errors. These errors can be either fatal or non-fatal. A non-fatal input error might be that two AERO cards were input and program execution was performed using the last card read. A fatal error might be that the store diameter field was left blank and, therefore, assumed zero. In case of a fatal error, the input data are printed along with the fatal error message(s) and execution is terminated. The out-of-range warnings are designed to inform the user that a prediction has been made with a parameter that is beyond the bounds of the empirical data base used to develop the basic technique. Thus, the prediction has been made with an extrapolated parameter. The warning issued contains the appropriate figure number from Reference 1 and prints the x, y value used in the prediction from that figure. It is then up to the user to consult the figure and apply his engineering judgement to decide if use of the extrapolated data overly compromises the final predictions.

The final portion of the output stream contains the optional output printed only if requested on the OPTION card. The optional output contains all parameters looked up from the data base for each airload component computed. The optional output will print the figure number and x, y value used in the computation from the data base (most figures in Volume II, Book 2, Reference 1).

#### Multiple Run Capabilities

Up to five separate aircraft-store configurations can be

run in a single input deck by separating the stacked cases with END CASE cards as defined in Appendix A. If the same aircraft-store combination is involved, then only those input cards affected by the change need to be redefined. Thus, the input is constructed in a manner similar to Namelist input in FORTRAN. A maximum of seven Mach numbers can be run for each of the five cases.



### SECTION III

#### APPLICATION OF COMPUTED RESULTS

The tabulated coefficient results of the computer program present the basic airload (i.e., the captive store airload generated by a zero-yaw pitch excursion of the parent aircraft) and the incremental airloads due to aircraft yaw and adjacent store interference. The incremental airloads due to yaw and interference are predicted as increments to be added to the basic airload. Although the method of combining these effects was detailed in Reference 1, it is repeated here for convenience. Therefore, at a particular Mach number the total captive airload experienced by a store can be obtained from the following generalized coefficient expression:

$$C_{x \text{ TOTAL}} = C_{x \text{ BASIC}} + \Delta C_{x \beta_S} \cdot \beta_S + \Delta C_{x \text{ INTF}} \quad (1)$$

where:

- $x$  - Can be  $y$ ,  $n$ ,  $N$ ,  $M$ ,  $A$ , or  $l$  representing side force, yawing moment, normal force, pitching moment, axial force, and rolling moment, respectively
- $C_{x \text{ BASIC}}$  - Basic captive airload generated by a zero yaw pitch excursion of the parent aircraft
- $\Delta C_{x \beta_S}$  - Incremental airload due to aircraft yaw per degree store yaw angle,  $\beta_S$
- $\beta_S$  - Store yaw angle equal to  $\psi_{A/C}$  for a right-wing store installation and  $-\psi_{A/C}$  for a left-wing store installation

$\Delta C_{x \text{ INTF}}$  - Incremental airload due to the effect of adjacent store interference.

The generalized coefficient equation presented above, Equation (1), applies to both the slope and intercept predictions made by the computer program.

#### SECTION IV

##### MODIFICATION OF THE YAWING MOMENT TECHNIQUE

A typical variation of side force and yawing moment for a wing-mounted single store is shown in Figure 3 as a function of angle of attack. This type of yawing moment variation extends from subsonic flow up through the transonic regime for the experimental data available during the technique development reported in Reference 1. The extreme change in slope of the yawing moment as a function of angle of attack occurs in the 4 to 6-degree angle-of-attack range for most configurations. During the technique development phase of the previous program, the yawing moment prediction technique was developed for the -4 to +6-degree angle-of-attack range. One objective of the current program was to extend the capability of the yawing moment method to apply from -4 to +12 degrees angle-of-attack. This has been accomplished by adding to the previous technique. The previous method has been retained and still applies in the -4 to approximately 6-degree angle-of-attack range.

Extension of the effective angle-of-attack range for the prediction was accomplished by predicting the angle of attack at which the break in yawing moment occurs, and then correlating the yawing moment slope for the 6 to 12-degree range using techniques established in the previous study (Reference 1). The resulting technique for the entire -4 to +12-degree angle-of-attack range consists of a predicted slope and intercept for the lower angle-of-attack range (-4 to 6 degrees) and a predicted slope and intercept for the higher range (6 to 12 degrees). The actual range of applicability for each

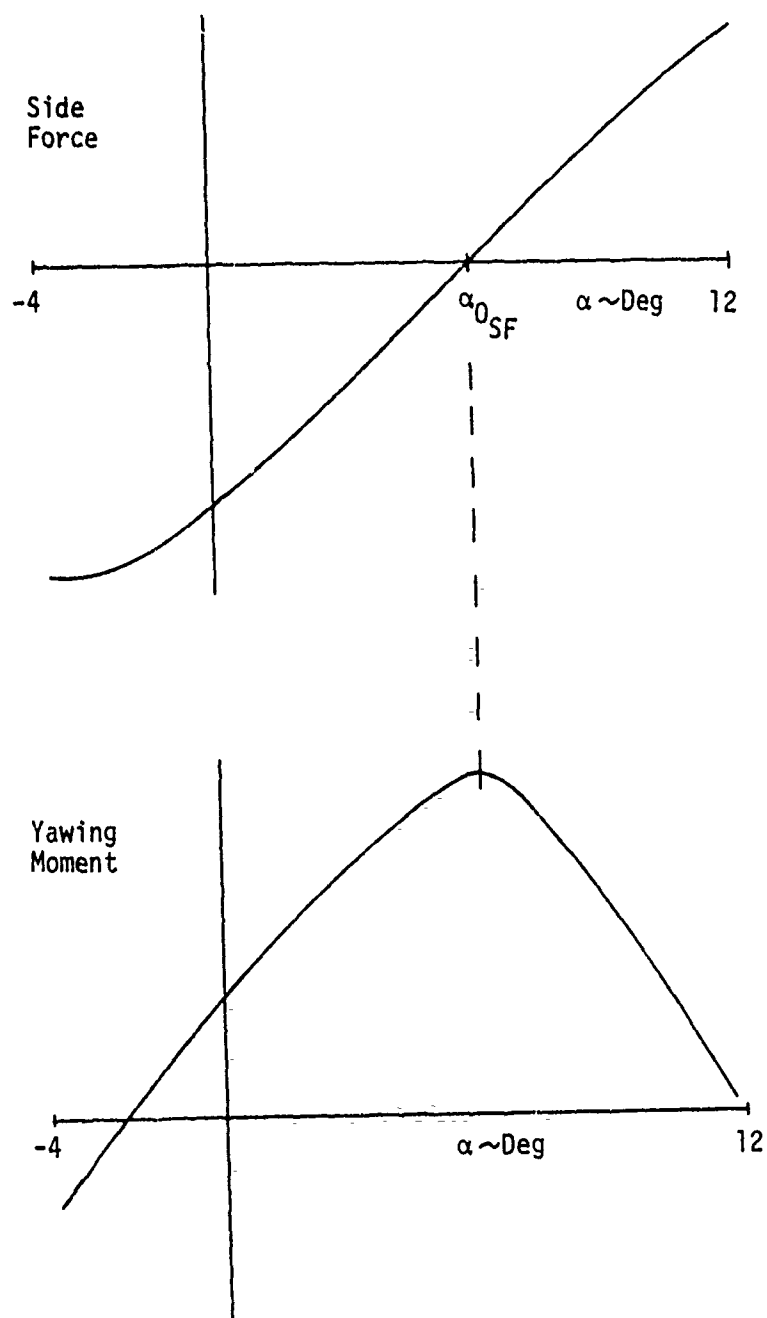


Figure 3. Typical Captive Store Side Force and Yawing Moment

of the equations is determined by the predicted angle of attack at which the yawing moment slope break occurs.

This approach was adopted after studying the available experimental data for high- and low-wing aircraft. It was observed for high-wing aircraft that the yawing moment slope break occurred at the angle of attack where side force was zero, as shown in Figure 3. This loading indicates that the store running load distribution is producing a couple at this angle of attack with maximum yawing moment occurring when side force is zero. This relationship holds true for the available experimental data for high-wing aircraft for Mach numbers from 0.5 to 1.0 at which point the extreme non-linearity disappears from the yawing moment component. For low-wing aircraft, this simple relationship did not hold true; nevertheless, a relationship was discovered between the angle of attack where side force is zero and the angle of attack where the break in yawing moment slope occurs. This relationship varied with Mach number over the range 0.5 to 1.2, above which the extreme non-linearity disappears for the yawing moment component for low-wing aircraft. The relationship between the angles of attack at which the yawing moment slope break occurs and the side force is zero is presented in Figure 4 for both high- and low-wing aircraft.

With this relationship established for high- and low-wing aircraft, a method was needed to apply the relationship to other aircraft. This was accomplished by defining a wing-fuselage height parameter as shown in Figure 5. Armed with this definition, it is possible to determine for all wing-fuselage relationships the Mach number below which the yawing moment slope non-linearity occurs through the following equation:

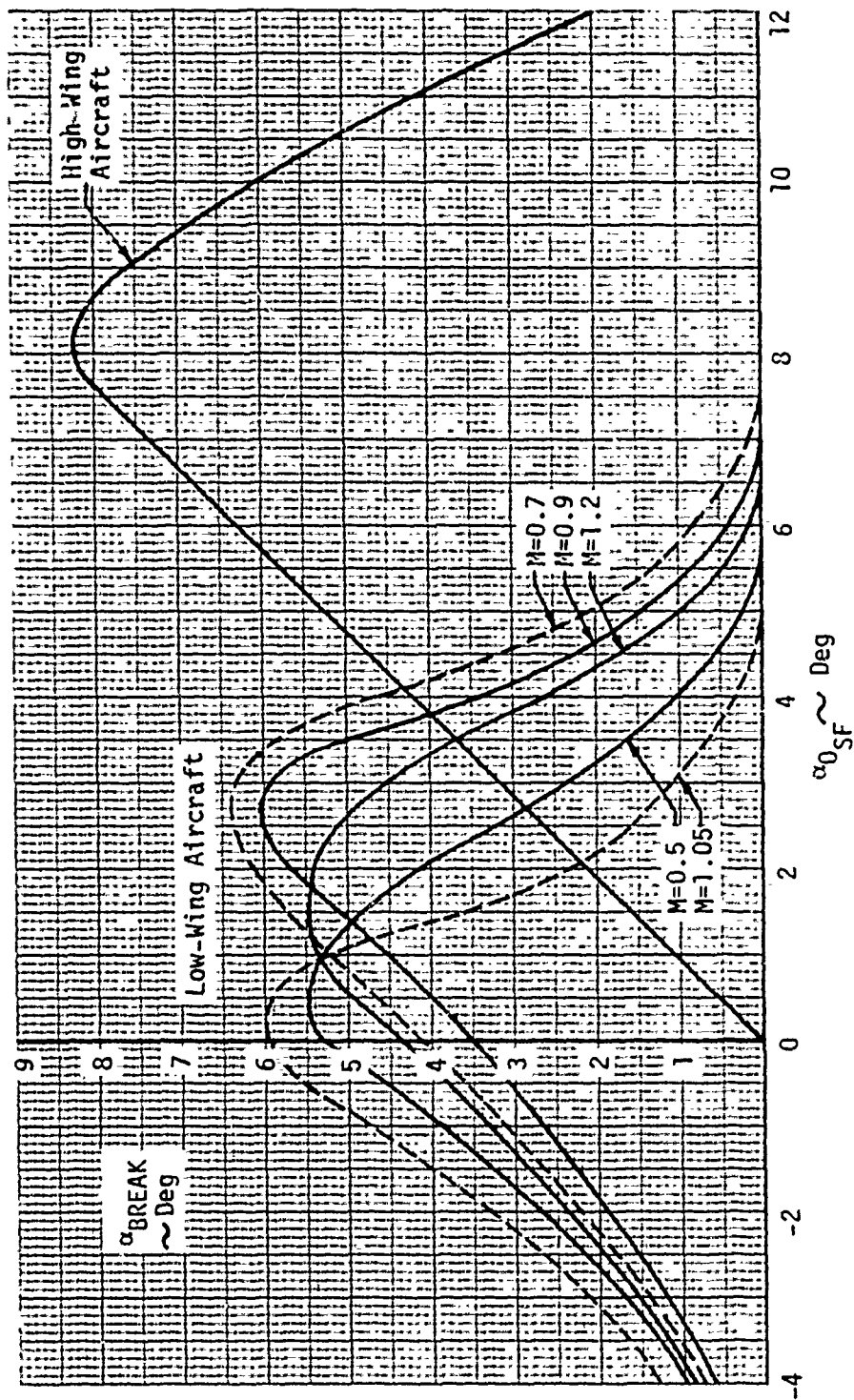
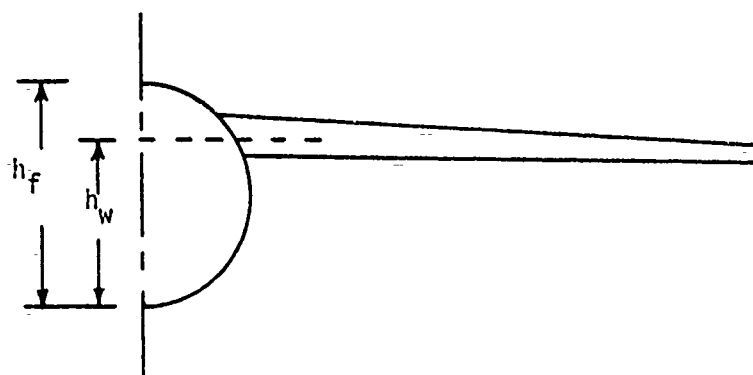


Figure 4. Correlation of  $\alpha_{\text{BREAK}}$  as a Function of  $\alpha_{\text{SF}}$



$$\frac{h_w}{h_f} = 1.0 \text{ for high-wing aircraft}$$

$$\frac{h_w}{h_f} = 0.0 \text{ for low-wing aircraft}$$

Figure 5. Wing-Fuselage Height Definition

$$M_{\text{BREAK LIMIT}} = 1.2 - 0.2 \frac{h_w}{h_f} \quad (2)$$

If the Mach number for which an airloads computation is desired is less than  $M_{\text{BREAK LIMIT}}$ , the yawing moment non-linearity exists, and the procedure to determine a new yawing moment slope and intercept that applies in the higher angle-of-attack range is required. This procedure is outlined in the following discussion.

In order to determine the angle of attack where the yawing moment slope break occurs, it is necessary to know the angle of attack where side force is zero,  $\alpha_{0_{SF}}$ . This parameter is determined from the following equation:

$$\alpha_{0_{SF}} = - \frac{\left(\frac{SF}{q}\right)_{\alpha=0}}{\left(\frac{SF}{q}\right)_{\alpha}} \quad (3)$$

where:

$\left(\frac{SF}{q}\right)_{\alpha=0}$  - Basic side force intercept predicted from Reference  
1 for the Mach number of interest,  $\text{ft}^2$ .

$\left(\frac{SF}{q}\right)_{\alpha}$  - Basic side force slope predicted from Reference  
1 for the Mach number of interest,  $\frac{\text{ft}^2}{\text{deg}}$ .

Knowing  $\alpha_{0_{SF}}$  from Equation (3), determine from Figure 4:

$\alpha_{\text{BREAK HIGH WING}}$ , deg

$\alpha_{\text{BREAK LOW WING}}$ , deg

Then for the general case,

$$\alpha_{\text{BREAK}} = \alpha_{\text{BREAK LOW WING}} + \frac{h_w}{h_f} (\alpha_{\text{BREAK HIGH WING}} - \alpha_{\text{BREAK LOW WING}}) + \Delta\alpha_{\text{BREAK}} \quad (4)$$



where:

$\frac{h_w}{h_f}$  - Wing-fuselage height parameter. Equal to 1.0 for high-wing aircraft and 0 for low-wing configurations. Other configurations are defined by Figure 5.

$\Delta\alpha_{\text{BREAK}}$  - Final correction to  $\alpha_{\text{BREAK}}$  to account for  $\alpha_{0\text{SF}}$  prediction tolerances (Figure 6), deg.

The preceding equation for  $\alpha_{\text{BREAK}}$  determines the angle of attack at which the break in yawing moment slope occurs. For angles of attack less than  $\alpha_{\text{BREAK}}$ , the yawing moment slope and intercept prediction technique presented in Reference 1 is applicable. For angles of attack greater than  $\alpha_{\text{BREAK}}$ , the following equations predict the applicable slope and intercept:

Yawing moment slope prediction for  $\alpha > \alpha_{\text{BREAK}}$ : (see Figure 9)

$$\left(\frac{YM}{q}\right)_{\alpha_2} = [K_{\text{SLOPE}} (C_{\text{LOCAL}} K_{\Lambda_1}) + K_{\text{INTC}}] Sd + \frac{h_w}{h_f} \Delta K_{\text{SLOPE INTF}} \quad (5)$$

where:

$K_{\text{SLOPE}}$  - Variation in  $C_{n_x}$  as a function of  $C_{\text{LOCAL}} K_{\Lambda_1}$ , Figure 7,  $\frac{1}{\text{in. deg}}$ .

$C_{\text{LOCAL}}$  - Local wing chord of the parent aircraft at the location of the subject store, in.

$K_{\Lambda_1}$  - Wing sweep correction factor,  $\frac{\sin \Lambda}{\sin 45^\circ}$ , where  $\Lambda$  is the wing quarter-chord sweep angle, in degrees, of the parent aircraft.

- $K_{INTC}$  - Value of  $C_{n_\alpha}$  where  $C_{LOCAL K_{\Lambda_1}} = 0$ , Figure 7,  $\frac{1}{deg}$   
 $S$  - Store reference area,  $\frac{\pi d^2}{4}$ ,  $ft^2$   
 $d$  - Store diameter,  $ft$   
 $\frac{h_w}{h_f}$  - Wing-fuselage height relationship, previously defined (Figure 5)  
 $\Delta K_{SLOPE_{INTF}}$  - Incremental change in yawing moment slope due to the interference effect of the fuselage for high wing aircraft (Figure 8),  $\frac{ft^3}{deg}$ .

Yawing moment intercept for  $\alpha > \alpha_{BREAK}$ : (see Figure 9)

$$\left(\frac{YM}{q}\right)_{\alpha=0_2} = \left[\left(\frac{YM}{q}\right)_{\alpha_1} - \left(\frac{YM}{q}\right)_{\alpha_2}\right] \alpha_{BREAK} + \left(\frac{YM}{q}\right)_{\alpha=0_1} \quad (6)$$

where:

- $\left(\frac{YM}{q}\right)_{\alpha_1}$  - Variation of yawing moment with angle of attack for  $\alpha < \alpha_{BREAK}$  as predicted by Reference 1 basic airload,  $\frac{ft^3}{deg}$   
 $\left(\frac{YM}{q}\right)_{\alpha_2}$  - Variation of yawing moment with angle of attack for  $\alpha > \alpha_{BREAK}$  as predicted by Equation (5) defined above,  $\frac{ft^3}{deg}$   
 $\alpha_{BREAK}$  - Angle of attack where the yawing moment slope break occurs, Equation (4),  $deg$   
 $\left(\frac{YM}{q}\right)_{\alpha=0_1}$  - Value of yawing moment at  $\alpha=0$  for  $\alpha < \alpha_{BREAK}$  as predicted by Reference 1 basic airload,  $ft^3$ .

The derivation of  $\left(\frac{YM}{q}\right)_{\alpha=0_2}$ , Equation (6), can be easily understood by referring to Figure 9 from which the following expressions can be derived :

Curve 1: Applies if  $\frac{FIN SPA}{L} > 5.0$ ,  
where FIN refers to the store WING for  
case 1 stores and TAIL for case 2 stores  
of Reference 1.

Curve 2: Applies if  $\lambda_{LE} > 82.0$  in.

Curve 3: Applies for all other configurations.

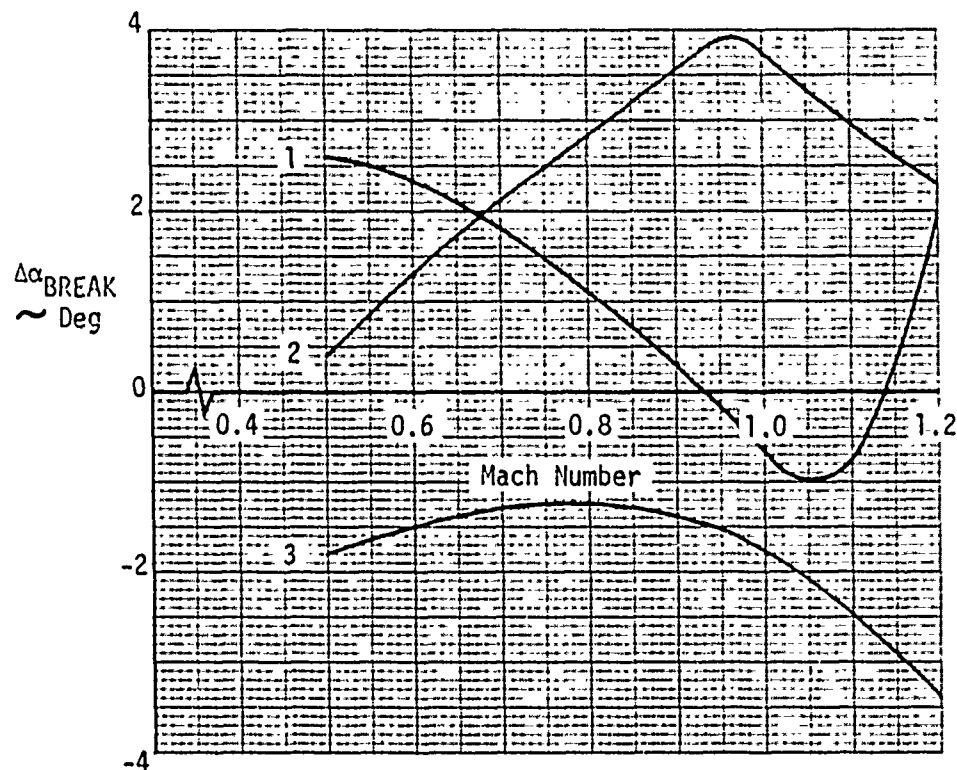


Figure 6. Variation of  $\Delta\alpha_{BREAK}$  with Mach Number

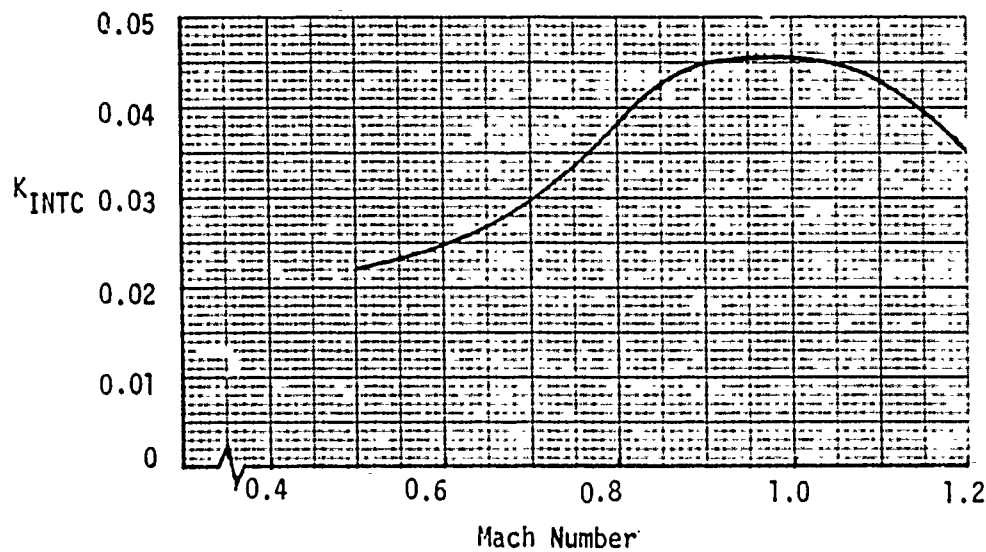
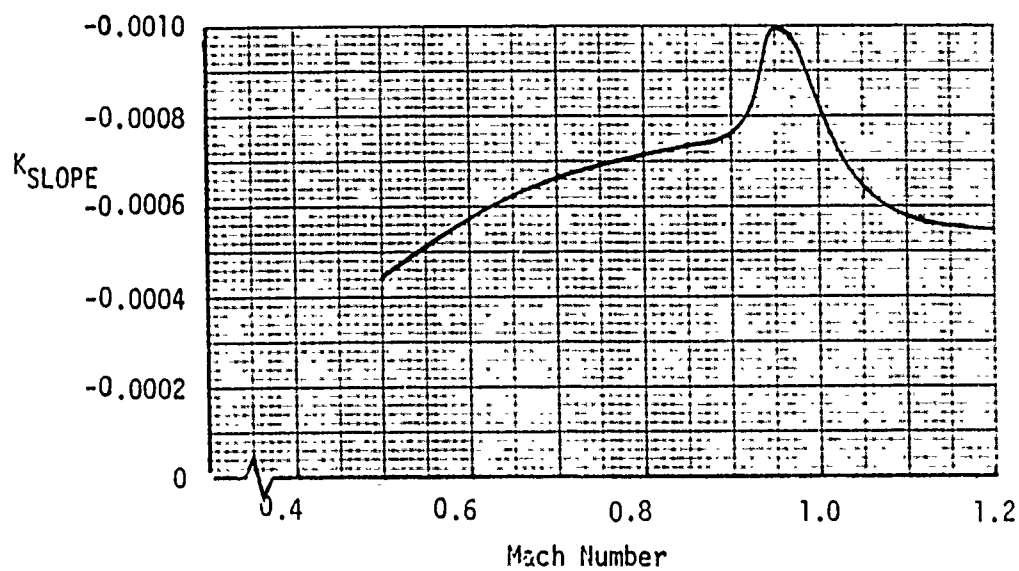
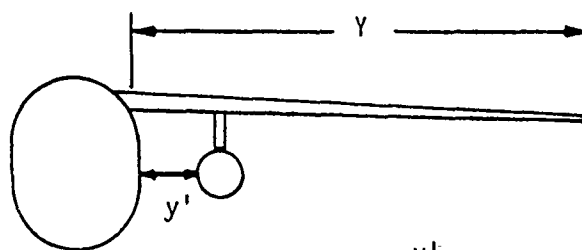


Figure 7. Yawing Moment Modification Parameters -  $K_{SLOPE}$  and  $K_{INTC}$



$$\eta' = \frac{y'}{Y}$$

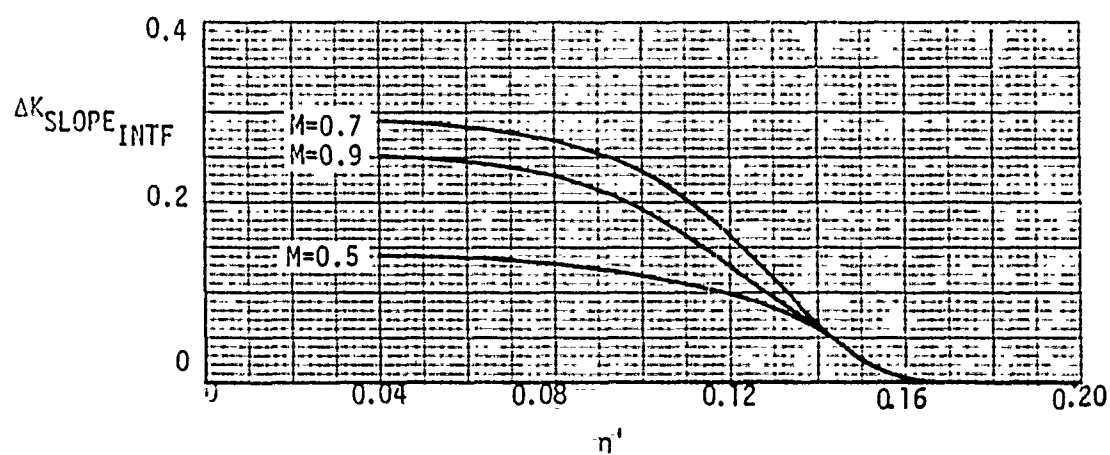


Figure 8. Fuselage Interference Correction -  $\Delta K_{SLOPE\_INTF}$

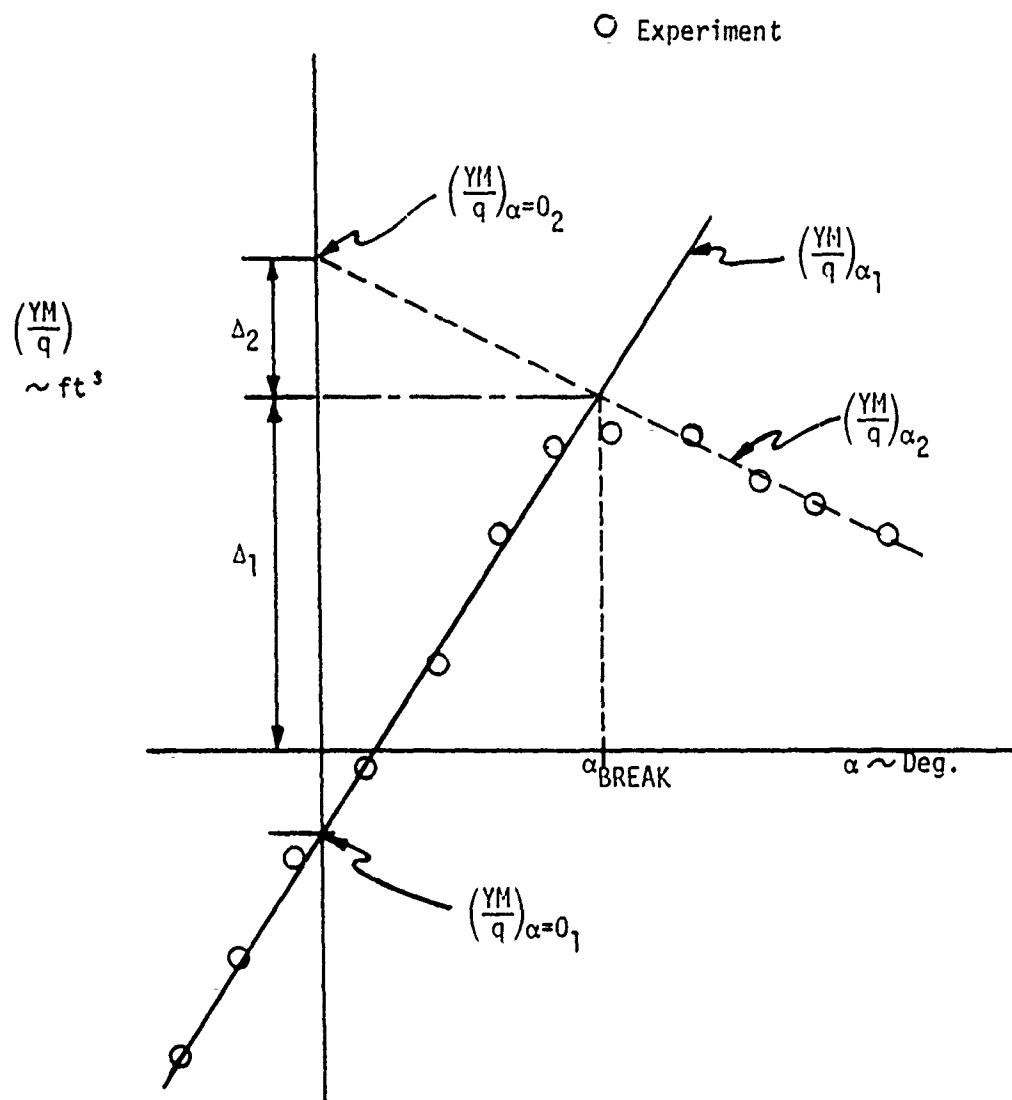


Figure 9. Guide to Derivation of  $(\frac{YM}{q})_{\alpha=0_2}$

$$\Delta_1 = \left(\frac{YM}{q}\right)_{\alpha_1} \cdot \alpha_{BREAK} + \left(\frac{YM}{q}\right)_{\alpha=0_1} \quad (7)$$

$$\Delta_2 = - \left(\frac{YM}{q}\right)_{\alpha_2} \cdot \alpha_{BREAK} \quad (8)$$

Then,

$$\left(\frac{YM}{q}\right)_{\alpha=0_2} = \Delta_1 + \Delta_2 \quad (9)$$

Hence, the sum represented by Equation (9) yields the results presented in Equation (6) for  $\left(\frac{YM}{q}\right)_{\alpha=0_2}$ .

The yawing moment prediction method presented in Reference 1 provides a predicted yawing moment slope and intercept for the angle-of-attack range  $-4^\circ \leq \alpha \leq \alpha_{BREAK}$ . Equations (5) and (6) presented here predict yawing moment slope and intercept, respectively, for the range  $\alpha_{BREAK} \leq \alpha \leq 12^\circ$ . Therefore, a combination of the two techniques yields a yawing moment prediction method that is valid for the  $-4^\circ$  to  $+12^\circ$  angle-of-attack range as required. This extension to the technique of Reference 1 has been incorporated in the computer program, and results from the program reflect the combination of these two techniques for the applicable Mach numbers.

The figures required to predict the yawing moment slope and intercept for angles of attack greater than  $\alpha_{BREAK}$  have been presented in this report as Figures 4, 6, 7, and 8. The figure numbers in the manual technique (Reference 1) range from 1 to 909. In order to incorporate Figures 4, 6, 7, and 8 presented here into the digital data base for the computer routine, they were renumbered beginning with Figure 910 as follows:

DIGITAL DATA BASE FIGURE NUMBER

Figure 4	910 (Low-Wing)
	911 (High-Wing)
Figure 6	915
Figure 7	912 ( $K_{SLOPE}$ )
	913 ( $K_{INTC}$ )
Figure 8	914 ( $\Delta K_{SLOPE_{INTF}}$ )



## SECTION V

### ERRORS IN THE MANUAL TECHNIQUE

During the computer program development phase, several errors were discovered in the manual technique reported in Reference 1. These errors were primarily plotting errors affecting four figures in Volume II, Book 2, of Reference 1. These plotting errors involve Figures 26, 49, 53, and 59. The ordinate scale for Figure 53(a) and (b) should be negative instead of the positive scale shown. Figures 26, 49, and 59 are misplotted or poorly faired. The correct values for these three figures are presented in digital form, as used by the computer routine in Table 1.

Besides the plotting errors, one typographical error affecting the equation for  $\Delta\left(\frac{PM}{q}\right)_{\alpha=0_2}$  on page 275 of Volume II, Book 2, of Reference 1 was found. The last factor appearing on the right side of this equation should read as follows:

$$\frac{K_{C_{PM}} PPA L_n}{\lambda_{LE} d^2}$$

The definitions of  $K_{INTC_2}$  and  $K_{SLOPE_2}$  which follow on the same page should also contain this factor.

It is suggested that these corrections be noted in copies of Reference 1 to avoid further misuse.

Table 1. CORRECTIONS TO THE DATA BASE  
OF VOLUME II, BOOK 2 OF REFERENCE 1

<u>Figure 26</u>		<u>Figure 49</u>		<u>Figure 59</u>	
X	Y	X	Y	X	Y
0.0	0.0	0.0	0.0	0.0	0.16
0.1	0.0	0.375	0.0	50.0	0.187
0.2	0.0	0.390	0.52	100.0	0.227
0.3	0.0	0.40	0.77	150.0	0.288
0.4	$-1.0 \times 10^{-6}$	0.41	0.93	200.0	0.380
0.5	$-9.0 \times 10^{-6}$	0.42	1.02	225.0	0.430
0.6	$-1.1 \times 10^{-5}$	0.45	1.20	250.0	0.445
0.7	$-1.9 \times 10^{-5}$	0.475	1.29	275.0	0.448
0.8	$-3.3 \times 10^{-5}$	0.50	1.31	300.0	0.440
0.9	$-8.0 \times 10^{-5}$	0.65	1.40	350.0	0.414
1.0	$-1.25 \times 10^{-4}$			400.0	0.378
1.1	$-1.6 \times 10^{-4}$			450.0	0.345
1.2	$-1.84 \times 10^{-4}$			500.0	0.325
1.3	$-2.04 \times 10^{-4}$				
1.4	$-2.2 \times 10^{-4}$				
1.5	$-2.31 \times 10^{-4}$				
1.6	$-2.43 \times 10^{-4}$				

X is the independent variable

Y is the dependent variable

## SECTION VI

### CONCLUSIONS AND RECOMMENDATIONS

A computer routine has been developed during this study that provides a rapid method to determine six-component captive store airloads for wing-mounted single carriage stores. The technique represented by the computer routine offers installed store airloads over a broad range of flight conditions which include Mach numbers from 0.5 to 2.0, angles of attack from -4 to +12 degrees, and aircraft yaw angles from -8 to +8 degrees. Airloads coefficients predicted by the routine are an accurate representation of the single carriage method reported in AFATL-TR-75-87 (Reference 1). As such, the computer routine allows inexpensive and rapid computation of installed store aerodynamic loads with accuracy sufficient for preliminary design and evaluation purposes. Thus, the need for some wind tunnel and flight tests may be eliminated.

Modifications of the yawing moment component to extend its usefulness above six degrees angle of attack were completed and incorporated into the computer routine.

It is recommended that predictions from the method contained in the computer routine be correlated with experimental data for aircraft-store configurations not used in the method's derivation. If significant differences are observed for specific configurations, the technique should be updated to be applicable to new configurations. In addition, it is recommended that the remainder of the technique in Reference 1, captive airloads for multiple carriage stores, be developed into a computerized version for Air Force and industry use.

#### REFERENCES

1. Rudnicki, A. R., et al., External Store Airloads Prediction Technique, Air Force Armament Laboratory Report AFATL-TR-75-87, July 1975.
2. Nielsen, J. N., Pitts, W. C., and Kaattari, G. E., Lift and Center of Pressure of Wing-Body-Tail Combinations at Subsonic, Transonic, and Supersonic Speeds, NACA Report 1307, 1957.
3. Eaton, P. T., A Method for Predicting the Static Aerodynamic Characteristics of Low-Aspect-Ratio Configurations, David Taylor Model Basin, Report 2216, June 1966.

APPENDIX A  
USER'S GUIDE

## TABLE OF CONTENTS

	Page
OPERATIONAL GUIDE.....	33
FORTRAN NOMENCLATURE.....	36
INPUT INSTRUCTIONS.....	37
OUTPUT DESCRIPTION.....	45
ROUTINE AND SUBROUTINE DESCRIPTION.....	51
SAMPLE CASE.....	56
ROUTINE LISTING.....	76
DIGITAL DATA BASE LISTING .....	143

## OPERATIONAL GUIDE

Following is a list of comments which may be helpful to the user until he becomes familiar with the operation of this routine:

1. Multiple cases can be run by separating the cases with "END CASE" cards.
2. A maximum of five cases can be run at one time.
3. A maximum of seven Mach numbers can be run for each case.
4. Data cards that are unchanged from case N to case N+1 need not be included in the case N+1 input deck.
5. Four title cards should be used.
6. Input fields for data that are not required for a particular case should be left blank. (For example, if there are no interfering stores, the input fields describing interfering store parameters should be left blank.)
7. Title cards must be ordered as desired in the output.
8. Cards other than title cards can appear in any order desired.
9. If "x" or "+" is not input in column 10 of STORE3 card, then the planform area of the wing/tail surface as defined for computation of Reference 2 must be input, as well as the sum of all wing and tail planform areas.
10. For type 1 stores, "wing" refers to the lifting surfaces. For type 2 stores, "wing" refers to the forward set of lifting surfaces and "tail" to the aft set.

11. For aircraft with fuselage side inlets, the minimum distance from the store to the inlet as measured in the aircraft yz plane must be input. For aircraft with centerline inlets, a value of "400." should be input in columns 31-40 of the A/C1 card.
12. Each store segment containing SPA or PPA can have more than one area type in it. (For example, 1N, 2N, 2B, 3B, 4B, 4W may appear to describe a particular store where N, B, W represent nose, body, and wing SPA or PPA, respectively.)
13. The captive airloads for any components listed in columns 41-60 of the OPTION card will be calculated automatically.
14. An asterisk appears immediately following any predicted slope or intercept in the output listing which was calculated using extrapolated or out-of-range data from the data base (graphs of Reference 1).
15. The maximum number of SPA or PPA cards that can be input is 40.
16. The maximum number of store segments allowed is 35.
17. If the Side Projected Area is not equal to the Plan Projected Area for each segment type:
  - a. For every SPA card there should be a corresponding PPA card, even if the Plan Projected Area for that segment type is zero.
  - b. For every PPA card there should be a corresponding SPA card, even if the Side Projected Area for that segment type is zero.



18. For unfinned stores, a value of "90" must be input in columns 41-50 of the STORE2 card.
19. Mach numbers may be input in any order on the AERO card.
20. If the optional data base look-up printout for Figures 4 and 5 of Reference 1 are desired, "IP" must be input within columns 41-60 of the OPTION card.

## FORTRAN NOMENCLATURE

In an effort to provide the user the most convenient definition of FORTRAN symbols, the definitions of these symbols appear as comments in the listing of the computer routine. (See "Routine Listing" portion of this appendix.) By presenting the definitions in this manner, the location of each variable is identified without the preparation of a special section within this manual, thereby maximizing its simplicity.

# INPUT INSTRUCTIONS

This section provides a detailed description of the parameters required as input to the routine.

CARD	PARAMETER (FORTRAN SYMBOL)	COLUMN/FORMAT	DESCRIPTION
TITLE		11-80/7A10	General information describing the aircraft-store configuration to be investigated. There should be four "TITLE" cards.
STORE1	STORE TYPE (ICASE)	10/I1	Identifies the type of store (Case 1, 2, or 3) to be studied. Case 1 ~ store with lifting surfaces at aft end. Case 2 ~ store with both forward and aft lifting surfaces. Case 3 ~ unfinned store.
	$K_N$ (AKN)	11-20/F10.0	Ratio of lift of the store nose to lift of wing alone; required for Case 1 stores. (See line 80, Table 1, page 38 of Reference 2.)
	$K_{B(W)}$ (AKBW)	21-30/F10.0	Ratio of the body lift in the presence of the wing to lift of the wing alone; required for Case 1 stores. (See line 48, Table 1, page 38 of Reference 2.)
	$K_{W(B)}$ (AKWB)	31-40/F10.0	Ratio of lift of the wing in the presence of the body to lift of the wing alone; required for Case 1 stores. (See line 47, Table 1, page 38 of Reference 2.)
	$K_{N/B}$ (AKNB)	41-50/F10.0	Required input for Case 2 stores. (See page 29 of Reference 1 for description.)
	$K_{T/B}$ (AKTB)	51-60/F10.0	Required input for Case 2 stores. (See page 29 of Reference 1 for description.)

CARD	PARAMETER (FORTRAN SYMBOL)	COLUMN/FORMAT	DESCRIPTION
STORE1	$K_{W/B}$ (AKWBT)	61-70/F10.0	Required input for Case 2 stores. (See page 30 of Reference 1 for description.)
	$K_{INTF}$ (AKINTF)	71-80/F10.0	Required input for Case 2 stores. (See page 30 of Reference 1 for description.)
STORE2	Store Length, L (STOREL)	11-20/F10.0	Length of the subject store, in.
	Store Diameter, d (STORED)	21-30/F10.0	Diameter of the subject store, in.
	Nose Length, $L_n$ (ANOSL)	31-40/F10.0	Nose length of the subject store, in., as defined by line 41, Table 1, page 38 of Reference 2.
	Wing/Tail Leading Edge Sweep Angle, $\Lambda_{FIN}$ (ALEFIN)	41-50/F10.0	Sweep angle of the wing leading edge (Case 1 store) or Tail leading edge (Case 2 store) of the subject store, degrees. (A value of "90." should be input for unfinned stores.)
	Isolated Store Lift Curve Slope, $C_{L_\alpha}$ (CLAISO)	51-60/F10.0	Lift curve slope, $C_{L_\alpha}$ , of the subject store in freestream flow. Obtained from experimental data or by using the method presented in Reference 2.
	Freestream Zero-Lift Drag Coefficient, $C_{D0}$ (CDOISO)	61-70/F10.0	The $C_{D0}$ of the subject store in freestream flow. Obtained from experimental data or by using the method presented in Reference 3.
	Store C.G. (XCG)	71-80/F10.0	The distance from the subject store nose to its center of gravity, in.

CARD	PARAMETER (FORTRAN SYMBOL)	COLUMN/FORMAT	DESCRIPTION
STORE3	+,x,1 or 2 (ICONFG)	10/A1	Control parameter describing symmetry of store wing/tail. "+" ~ used if wing/tail are in the plus orientation when subject store is in the carriage position. "x" ~ used if wing/tail are in this orientation when the subject store is in the carriage position.  "1" ~ used if wing/tail are "symmetric" as defined on page 365 of Reference 1, but not in "+" or "x" orientation.  "2" ~ used if wing/tail are "unsymmetric" as defined on page 365 of Reference 1.
	SPA=PPA or Blank (ISYM)	14-20/A7	If the side projected area of each segment is equal to the plan projected area use "SPA=PPA". In this case only SPA cards (as described later) must be input. If the side projected area of each segment is not equal to the plan projected area, these columns should be left blank. Then both SPA and PPA cards must be input. There must be an equal number of SPA and PPA cards.
	Wing Planform Area (WINGPA)	21-30/F10.0	If "1" or "2" is input in column 10 of STORE3 card, the planform area of the wing as used in Reference 2 must be input here, in <sup>2</sup> .
	Tail Planform Area (TAILPA)	31-40/F10.0	For Case 2 stores, if "1" or "2" is input in column 10 of the STORE3 card, the planform area of the tail as used in Reference 2 must be input here, in <sup>2</sup> .

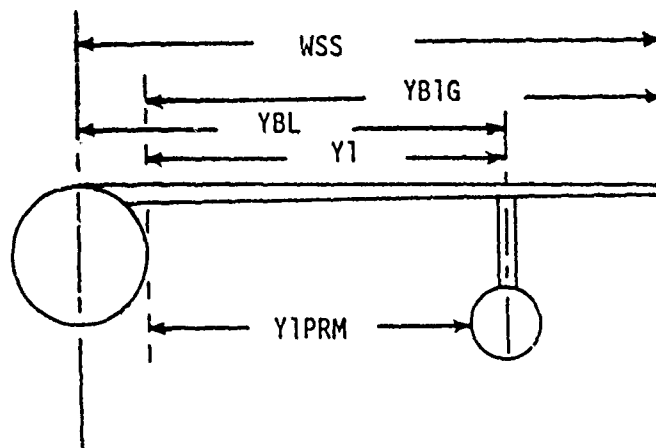
CARD	PARAMETER (FORTRAN SYMBOL)	COLUMN/FORMAT	DESCRIPTION
STORE3	Sum Planform Area (SUMP)	41-50/F10.0	If "1" or "2" is input in column 10 of STORE3 card, the sum of all wing and tail planform areas must be input, in <sup>2</sup> .
STORE4	Longitudinal Overlap Distance of Outboard Inter- fering Store, $X_{INTF}$ (XINTFO)	11-20/F10.0	Distance from the nose of the subject store to the nose of the interfering store as measured along the longitudinal axis of the subject store, in. (Positive if the subject store nose is forward of the interfering store nose.) Required if an interfering store is outboard of the subject store.
	Lateral Separation Distance to Outboard Inter- fering Store, $Y_{INTF}$ (YINTFO)	21-30/F10.0	Minimum lateral clearance between the subject store and the interfering store as measured in the planview, in. Required if an interfering store is outboard of the subject store.
	Diameter of Out- board Interfer- ing Store, $D_{INTF}$ (DINTFO)	31-40/F10.0	Diameter of the interfering store, in. Required if an interfering store is outboard of the subject store.
	Longitudinal Overlap Distance of Inboard Inter- fering Store, $X_{INTF}$ (XINTFI)	41-50/F10.0	Defined the same as "XINTFO". Required if an interfering store is inboard of the subject store.
	Lateral Separation Distance to Inboard Inter- fering Store, $Y_{INTF}$ (YINTFI)	51-60/F10.0	Defined the same as "YINTFO". Required if an interfering store is inboard of the subject store.
	Diameter of In- board Interfer- ing Store, $D_{INTF}$ (DINTFI)	61-70/F10.0	Defined the same as "DINTFO". Required if an interfering store is inboard of the subject store.

CARD	PARAMETER (FORTRAN SYMBOL)	COLUMN/FORMAT	DESCRIPTION
STORE5 ↓	Length of Outboard Interfering Store, $L_{INTF}$ (ALINFO)	11-20/F10.0	Length of the interfering store, in. Required if an interfering store is outboard of the subject store.
	Length of Inboard Interfering Store, $L_{INTF}$ (ALINF1)	21-30/F10.0	Length of the interfering store, in. Required if an interfering store is inboard of the subject store.
	Lug Spacing (ZPLNSP)	31-40/F10.0	Distance between suspension lugs on subject store, in.
	Store Midlug, $X_{ML}$ (SML)	41-50/F10.0	Distance from the subject store nose to the store mid-lug location as measured along the store longitudinal axis, in.
	Segment Length (SEGL)	51-60/F10.0	Constant length segments of the subject store used to define SPA and PPA, in. (user defined).
	$y'$ (Y1PRM)	61-70/F10.0	The minimum distance from the side of the fuselage to the side of the subject store as measured in the planview, in. (see Figure A-1).
AERO	Mach Numbers, M (REALM(*))	11-80/7F10.0	Mach numbers at which captive store airloads are desired ( $0.5 \leq M \leq 2.0$ ).
A/C1 ↓	Local Chord Length, $C_{LOCAL}$ (CLOCAL)	11-20/F10.0	The aircraft local wing chord at the buttline corresponding to the subject store location, in.
	Pylon Midlug, $\frac{X}{C_{ML}}$ (PXDCML)	21-30/F10.0	Mid-lug location (fraction of aircraft local wing chord) of the pylon on which the subject store is carried.
	Wing Semi-span, $b/2$ (WSS)	31-40/F10.0	Aircraft wing semi-span, in. (see Figure A-1).

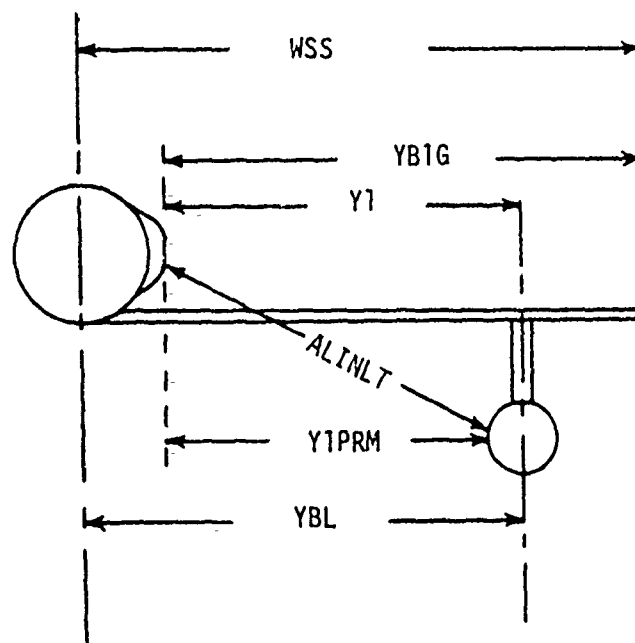
CARD	PARAMETER (FORTRAN SYMBOL)	COLUMN/FORMAT	DESCRIPTION
A/C1 ↓	Y (YBIG)	41-50/F10.0	Distance from the side of the fuselage to the wing tip measured in the planview, in. (see Figure A-1).
	y Buttline, $y_{BL}$ (YBL)	51-60/F10.0	Distance from aircraft centerline to pylon centerline (i.e., buttline of the pylon), in. (see Figure A-1).
	y (Y1)	61-70/F10.0	Distance from the side of the fuselage to the pylon centerline, in. (see Figure A-1).
A/C2 ↓	Lambda, $\Lambda$ (ALAMDA)	11-20/F10.0	Quarter chord sweep angle of the parent aircraft wing, deg.
	Pylon Height, Z (ZPH)	21-30/F10.0	Distance from the lower surface of the wing to the bottom of the pylon at the mid-lug point, in.
	Store to Inlet Distance, $L_{INLET}$ (ALINLT(*))	31-40/F10.0	Minimum distance from the side of the store to the fuselage mounted side inlets of the aircraft in the Y-Z plane, in. (see Figure A-1). (A value of "400." should be input for aircraft with centerline inlet.)
	$h_w/h_f$ (HWDHF)	41-50/F10.0	$h_w$ = distance from the bottom of the fuselage to the wing plane, in., at the chord position of the pylon mid-lug. $h_f$ = height of the fuselage, in., at the chord position of the pylon mid-lug. $h_w/h_f = 1.0$ for a high-wing aircraft and $h_w/h_f = 0.0$ for a low-wing aircraft.
SPA	Segment Number (NSEG)	14-19/I6	Beginning at the store nose, the number associated with the constant length SPA segment.



CARD	PARAMETER FORTRAN SYMBOL)	COLUMN/FORMAT	DESCRIPTION
SPA	Segment Type (NSTYPE)	20/A1	Describes the type of area in each segment. N ~ nose area segment B ~ body area segment W ~ wing area segment T ~ tail area segment
	Area (SPAT)	21-30/F10.0	Side projected area of segment NSEG, in <sup>2</sup> .
PPA	Segment Number (NSEG)	14-19/I6	Same as for SPA.
	Segment Type (NSTYPE)	20/A1	Same as for SPA.
	Area (SPAT)	21-30/F10.0	Plan projected area of segment NSEG, in <sup>2</sup> .
OPTION	SF,NF,YM,PM,AF,RM (INPTOP(*))	11-27/7(A2,1x)	Components appearing in these columns will be calculated Choose from 1-6 components and list in any order.
	IP,YM,PM,AF,RM, SF,NF (INPGRA(*))	41-60/7(A2,1x)	The components appearing in these columns are those for which table look-up data are printed in the output. Any or all of these components may be listed in any order. IP = Initial Prediction.
END CASE			This card separates up to five cases for a single input deck.



HIGH WING WITH CENTERLINE INLET



LOW WING WITH SIDE INLET

Figure A-1. Input Description

## OUTPUT DESCRIPTION

The tabulated output consists of four distinct sections of information. First, a playback of the input data appears followed by the second section containing the predicted captive airloads in coefficient form. Following the predictions, a diagnostics section is included that contains informative statements concerning extrapolated data used in the predictions, as well as descriptions of non-fatal input errors. The final output section contains the values of parameters obtained from the data base used in the computation. This output section is optional. The output is structured in this manner for all cases except when a fatal input error is encountered. In case of a fatal error, the input data are printed along with the fatal error message(s) and execution is terminated.

Figure A-2 presents the typical output arrangement of a successful run, showing the input playback, predicted captive airloads, diagnostic messages, and data base values. Each of the four output sections is discussed in greater detail in the following paragraphs.

### A. Input Data Playback

A playback of the input data is furnished to provide the user with a convenient check of the input data and for future reference in associating predictions with the corresponding input request.

### B. Captive Airloads Predictions

The final predicted coefficients for the subject configuration are presented in column form for the

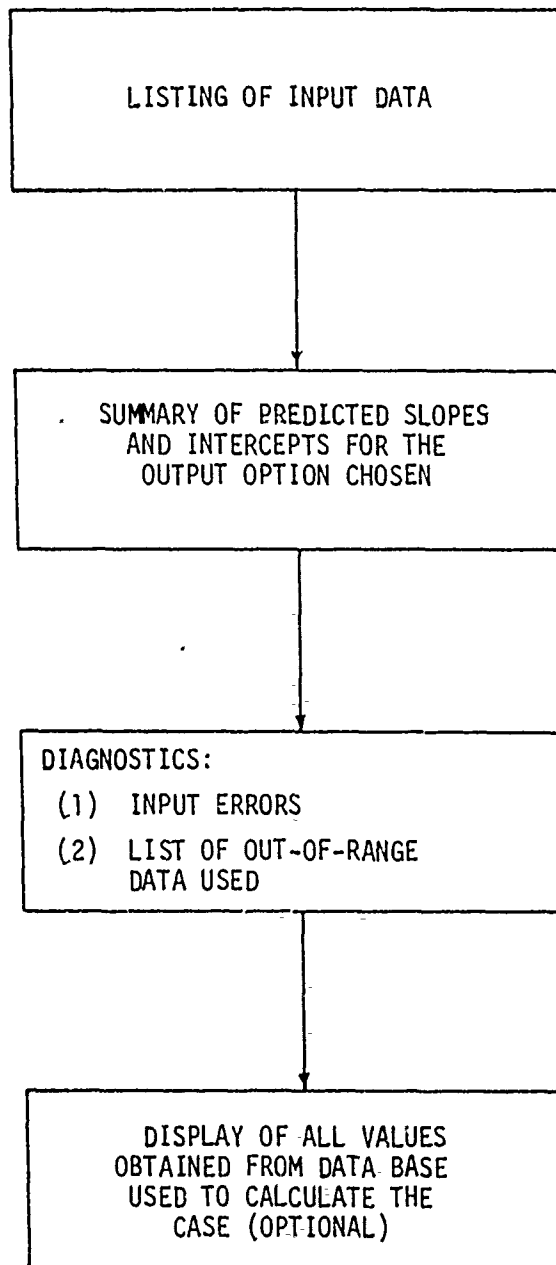


Figure A-2. Schematic of Output

Mach numbers requested. The sign convention for the predicted airloads is identical to the single carriage sign convention presented in Volume II, Book 1 of Reference 1. Moments are referenced to the store center of gravity. The coefficients are presented as a basic slope and intercept for each component plus incremental slopes and intercepts due to the effects of aircraft yaw and adjacent store interference.

Whenever extrapolated data from the data base are used in the calculation of a particular coefficient, an asterisk will appear immediately to the right of that coefficient. An exception to this procedure involves out-of-range data from Figures 4 or 5 of Reference 1. Since these figures are used in the initial predictions portion of the computer routine, the flags are not issued. Predictions are flagged only if the out-of-range parameter involves an empirically derived correction from the experimental data base.

#### C. Diagnostic Messages

Various error messages have been incorporated into the routine to inform the user of any errors, both fatal and non-fatal, that exist in the input stream. In addition, warning messages are included to call attention to less serious mistakes in the input deck

and to inform the user that a prediction has been made with a parameter that is beyond the bounds of the empirical data base used to develop the basic technique. The out-of-range message applies to those predicted coefficients that are flagged with an asterisk.

#### D. Optional Output

The presentation of the data base parameters used in calculation of the captive airloads is the last portion of the output. In addition to the "X" and "Y" values from the data base graph, the appropriate figure numbers and line numbers are also presented. This portion of the output is optional and can be suppressed by leaving columns 41-60 blank on the option card in the input deck.

The figure numbers appearing in this portion of the output correspond to the figure numbers in Volume II, Book 2 of Reference 1, which forms the digital data base used by the routine.

The line numbers presented here can refer to a variety of situations, depending on the type of graph from which data are obtained. Obviously, if a given graph in Reference 1 has more than one line, some distinction of data lines must be made. If there is only one line on a given graph, it is always labeled line 1.

If the graph consists of several lines, each designating data for different Mach numbers, the lines are distinguished by assigning line numbers in order of ascending Mach numbers. That is, line 1 will correspond to the lowest Mach number curve present, and the largest line number will correspond to the highest Mach number curve. For example, the data base for Figure 38 in Reference 1 will contain lines 1 through 4.

For graphs that contain incremental data due to aircraft yaw, the curve for negative store sideslip ( $-\beta_s$ ) is line 1, and the curve for positive store sideslip ( $+\beta_s$ ) is line 2 as in Figure 95 of Reference 1.

For graphs containing data describing the incremental load due to adjacent store interference, the curve presenting data for the effect of the outboard interfering store is line 1. Line 2 is comprised of the data concerned with the effect of the inboard interfering store. Figure 55 in Reference 1 illustrates typical curves defining the effect of outboard and inboard interfering stores.

If, as in Figure 48 of Reference 1, there is a graph with both  $\beta_s$  and Mach number data, the line numbers increase with ascending Mach number, but there are two sets, one for ( $+\beta_s$ ) and one for ( $-\beta_s$ ). The set for ( $-\beta_s$ ) will always appear before the set for ( $+\beta_s$ )

in the optional output. So, even though the output shows, for example, two "Figure 48, line 3" data sets, by the definition presented here the first corresponds to the  $(-\beta s)$  calculation and the second to the  $(+\beta s)$ .

The same type of situation can result when both inboard/outboard interference and Mach number data appear on the same graph, as in Figure 56 of Reference 1. In this case, the first set of data printed for a given figure number is for the calculation using the outboard interfering store curve and the second set is for the inboard. Obviously, both sets will appear only when there is an inboard and outboard interfering store for the case being computed.



## ROUTINE DESCRIPTION

This section contains a brief description of the function of each portion of the computer routine.

### 1. BLKRED

BLOCK DATA routine stores values of parameters that do not change during the execution of the program.

### 2. BLKFIL

BLOCK DATA routine loads the file, identifying the variables with a file number.

### 3. STORES

External store airloads prediction technique main routine.

STORES is the controlling program which cycles on up to five cases of data.

## SUBROUTINE DESCRIPTION

### 1. CHECKR

CHECKR assigns an input code to each card in the input stream. It checks for certain variables in which a blank field is valid and also checks for errors in card identification.

### 2. READIN

This routine reads data according to the format chosen by the input code that is assigned in CHECKR. It also checks fields for valid data and sorts SPA and PPA cards into ascending numerical order.

3. INITIAL

INITIAL sets up most constants used in the program as well as calculates the initial predictions for side force, normal force, pitching moment, and yawing moment.

4. PRINTR

PRINTR copies the files to output.

5. ERROR

This routine prints to the error file the appropriate message for each input error or warning encountered.

6. LININT

LININT is a linear interpolation scheme that retrieves values in the data base necessary to perform the required airloads computations. In addition, it contains the optional graph printout scheme.

7. TWOD

TWOD linearly interpolates between two graph lines in the data base for a specific independent variable.

8. STOPRT

This routine prints all predictions for the specified Mach numbers containing the calculated output.

9. SIDFRC

SIDFRC calculates the predicted side force basic slope and intercept as well as the increments due to aircraft yaw and adjacent store interference for Mach numbers between 0.5 and 2.0.

10. YAWMOM

YAWMOM calculates the predicted yawing moment basic slope and intercept, as well as the increments due to aircraft yaw and adjacent store interference for Mach numbers between 0.5 and 2.0.

11. NORFRC

NORFRC routine calculates the predicted normal force basic slope and intercept, as well as the increments due to aircraft yaw for Mach numbers between 0.5 and 2.0. In addition, it calculates the incremental normal force slope and intercept due to adjacent store interference for a Mach number of 0.5.

12. NORSB1

This routine calculates the incremental normal force slope and intercept due to adjacent store interference for Mach numbers other than 0.5.

13. PITMOM

PITMOM calculates the predicted pitching moment basic slope and intercept as well as the increments due to aircraft yaw and adjacent store interference for Mach numbers between 0.5 and 2.0.

14. AXIFRC

This routine calculates the predicted axial force basic slope and intercept and the increments due to aircraft yaw and adjacent store interference for Mach numbers between 0.5 and 2.0.

15. ROLMOM

ROLMOM calculates the predicted rolling moment basic slope and intercept and the incremental intercept due to aircraft yaw and adjacent store interference for Mach numbers from 0.5 to 2.0.

16. ALNLOC

This routine looks up a dependent value from the data base assuming the independent values are evenly spaced.

17. BREAKP

BREAKP finds the Mach number break points above and below the subject Mach number for use in the applicable Mach number correction calculation.

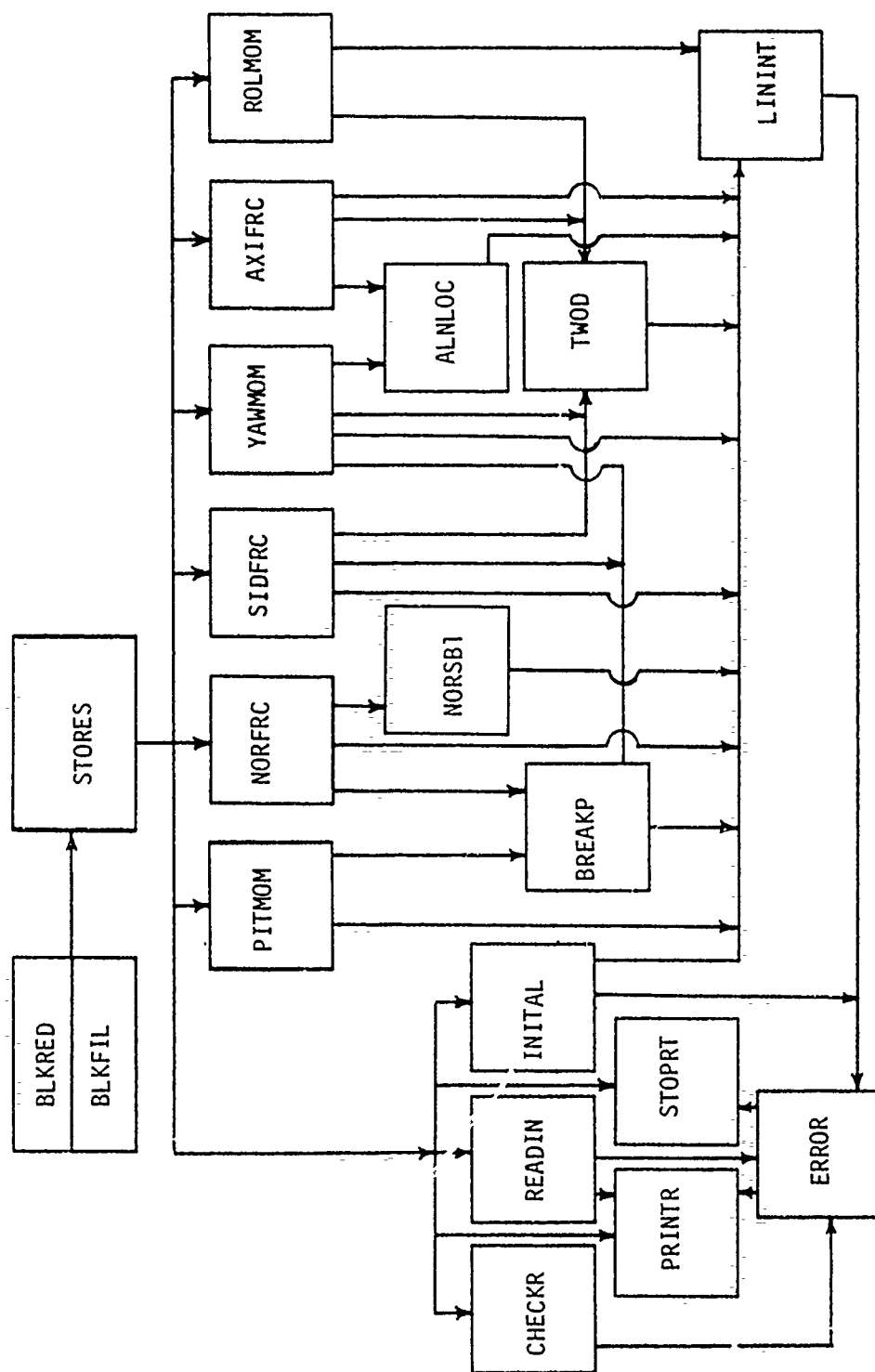


Figure A-3. Computer Routine Structure

SAMPLE CASE

SF, NF, AF, YM, PM, RM, IP

108 0.6

CASE NUMBER = 1

## CAPTIVE AIRLOADS PREDICTION TECHNIQUE CALCULATED DATA

CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

MACH NUMBER	.50	.70	.90	1.20	1.40	1.60	2.00
SIDE FORCE COEFFICIENTS							
BASIC AIRLOAD							
SLOPE PREDICTION	.08065	.03066	.08120	.03282	.09359	.10436	.06446
INTERCEPT PREDICTION	-.32576	-.32603	-.34097	-.23943	-.09338	.05153	.11433
INCREMENT-AIRCRAFT YAW							
SLOPE PREDICTION (+BS)	.00552	.00552	.00527	.00482	.00502	.00493	.00465
INTERCEPT PREDICTION (+BS)	.09355	.09350	.10374	.11015	.09767	.09378	.09361
SLOPE PREDICTION (-BS)	.00265	.00291	.00324	.00298	.00297	.00297	.00297
INTERCEPT PREDICTION (-BS)	.08803	.08991	.09999	.10672	.09022	.07793	.07073
INCREMENT-ADJACENT STORE INTERFERENCE							
SLOPE PREDICTION	-.03376	-.03376	-.03381	-.03129	-.02341	-.01687	-.01714
INTERCEPT PREDICTION	.13477	.13477	.10857	.22786	.25329	.27870	.27870
YAWING MOMENT COEFFICIENTS							
BASIC AIRLOAD							
ALPHA BREAK (DEGREES)	2.44	3.64	3.01	0.00	0.00	0.00	0.00
SLOPE PREDICTION < ALPHA BREAK	.11079	.12943	.03169	-.04241	-.04271	-.04302	-.03401
SLOPE PREDICTION > ALPHA BREAK	-.01508	-.02562	-.01821	0.00000	0.00000	0.00000	0.00000
INTERCEPT PREDICTION < ALPHA BREAK	-.01715	-.01681	.32454	.63656	.05307	.80359	.61048
INTERCEPT PREDICTION > ALPHA BREAK	.29010	.45922	.47283	0.00000	0.00000	0.00000	0.00000
INCREMENT-AIRCRAFT YAW							
SLOPE PREDICTION (+BS)	-.01454	-.01454	-.00901	-.00615	-.01186	-.01753	-.01753
INTERCEPT PREDICTION (+BS)	.00337	.00337	-.05646	-.15224	-.11984	-.08761	-.08761
SLOPE PREDICTION (-BS)	-.00631	-.00631	-.00555	-.00442	-.00876	-.01317	-.01317
INTERCEPT PREDICTION (-BS)	-.00798	-.00851	-.05224	-.11783	-.08103	-.04382	-.04363
INCREMENT-ADJACENT STORE INTERFERENCE							
SLOPE PREDICTION	.02433	.01945	.01312	.05315	.04879	.02273	.00545
INTERCEPT PREDICTION	.07611	.07611	-.25945	-.17315	-.12063	-.06311	-.06253
NORMAL FORCE COEFFICIENTS							
BASIC AIRLOAD							
SLOPE PREDICTION	-.00356	-.00356	-.00165	.00907	.01007	.00398	.00622
INTERCEPT PREDICTION	.34480	.34480	.34511	.34858	.35049	.35321	.35763
INCREMENT-AIRCRAFT YAW							
SLOPE PREDICTION (+BS)	-.00813	-.00813	-.01078	-.01234	-.01082	-.00931	-.00929
INTERCEPT PREDICTION (+BS)	.01199	.01172	.01412	-.00908	-.02633	-.04298	-.04315
SLOPE PREDICTION (-BS)	-.00919	-.00919	-.00797	-.01090	-.00426	-.00562	-.00560
INTERCEPT PREDICTION (-BS)	.06886	.06886	.05954	.04196	.02123	.00076	.00056
INCREMENT-ADJACENT STORE INTERFERENCE							
SLOPE PREDICTION	.02838	.02840	.04064	.03826	.04356	.04884	.04864
INTERCEPT PREDICTION	-.04095	-.04095	-.06354	-.23942	-.14125	.02311	.02253



CASE NUMBER = :

CAPTIVE AIRLOADS PREDICTION TECHNIQUE CALCULATED DATA

CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

HATCH NUMBER	.50	.70	.90	1.20	1.40	1.60	2.00
<b>PITCHING MOMENT COEFFICIENTS</b>							
BASIC AIRLOAD							
SLOPE PREDICTION	.07177	.07075	-.01043	-.13232	-.01765	.10059	.09457
INTERCEPT PREDICTION	-.30414	-.23832	-.21308	-.99607	-1.68305	-2.35942	-1.78536
INCREMENT-AIRCRAFT YAW							
SLOPE PREDICTION (+3S)	.01476	.01476	.00753	.01941	.01879	.01824	.01823
SLOPE PREDICTION (+3S)	-.01564	-.01564	.04674	.02369	.06330	.11222	.11244
SLOPE PREDICTION (-3S)	.01559	.01559	.00832	.01799	.01499	.01195	.01189
SLOPE PREDICTION (-3S)	-.14208	-.14208	-.07060	-.09655	-.06628	-.04735	-.04776
INTERCEPT PREDICTION (+3S)							
INTERCEPT PREDICTION (-3S)							
INCREMENT-ADJACENT STORE INTERFERENCE							
SLOPE PREDICTION	-.02280	-.02260	-.05290	.08745	-.01367	-.11480	-.11400
INTERCEPT PREDICTION	-.00007	-.00007	-.12532	-1.10905	-.60127	-.17305	-.16663
<b>AXIAL FORCE COEFFICIENTS</b>							
BASIC AIRLOAD							
SLOPE PREDICTION	.00086	.00398	.00676	-.01183	-.00513	-.00204	-.00378
INTERCEPT PREDICTION	.14828	.15029	.20404	.41189	.30324	.26719	.22301
INCREMENT-AIRCRAFT YAW							
SLOPE PREDICTION (+3S)	-.00012	-.00012	.00037	.00036	-.00021	-.00015	-.00042
SLOPE PREDICTION (+3S)	.00319	.00288	-.00505	.00333	.00439	.00443	.00417
SLOPE PREDICTION (-3S)	.00032	.00032	.00032	.00102	.00077	.00035	.00012
SLOPE PREDICTION (-3S)	-.00733	-.00746	-.00351	-.00304	-.00631	-.00630	-.00564
INTERCEPT PREDICTION (+3S)							
INTERCEPT PREDICTION (-3S)							
INCREMENT-ADJACENT STORE INTERFERENCE							
SLOPE PREDICTION	-.02422	-.00655	-.00450	-.02564	.02076	.05104	.05299
INTERCEPT PREDICTION							
<b>ROLLING MOMENT COEFFICIENTS</b>							
BASIC AIRLOAD							
SLOPE PREDICTION	-.00781	-.00781	-.00780	-.03645	-.00568	-.00484	-.00402
INTERCEPT PREDICTION	.02399	.02462	.02459	.00206	-.01501	-.03208	-.03333
INCREMENT-AIRCRAFT YAW							
SLOPE PREDICTION (+3S)	-.00996	-.01011	-.01139	-.01136	-.00963	-.00341	-.00686
SLOPE PREDICTION (-3S)	-.01039	-.01180	-.01207	-.01195	-.01081	-.00842	-.00617
INTERCEPT PREDICTION (+3S)							
INTERCEPT PREDICTION (-3S)							
INCREMENT-ADJACENT STORE INTERFERENCE							
SLOPE PREDICTION	.00946	.00866	-.00277	-.01629	-.00960	-.00794	-.00735
INTERCEPT PREDICTION							

REFERENCE DIMENSIONS

STORE CENTER OF GRAVITY TO FORWARD LUG = 13.00 INCHES  
STORE REFERENCE AREA = 3.87 FEET\*\*2  
STORE REFERENCE LENGTH = 2.21 FEET

CAPTIVE STORE AIRLOADS PREDICTION GENERAL MESSAGES

CASE NUMBER = 1

CAPTIVE AIRLOADS PREDICTION FOR A  
33 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER Pylon FOR INTERFERENCE

CASE NUMBER = 1  
 MACH NUMBER = .51

DATA

PREDICTION OUT OF RANGE

CAPTIVE STORE AIRLOADS  
 CAPTIVE AIRLOADS PREDICTION FOR A  
 300 GALLON TANK ON THE A-7 OUTBOARD  
 PYLON WITH A 300 GALLON TANK ON THE  
 CENTER PYLON FOR INTERFERENCE

MACH NUMBER = .50

WARNING - DATA POINT X = -.6388E+00, Y = .1411E+00 OUT OF RANGE FOR FIGURE	5 LINE	1
WARNING - DATA POINT X = .1527E+01, Y = .2423E+00 OUT OF RANGE FOR FIGURE	5 LINE	1
WARNING - DATA POINT X = -.6388E+00, Y = .1452E+01 OUT OF RANGE FOR FIGURE	4 LINE	1
WARNING - DATA POINT X = .1527E+01, Y = .3973E+00 OUT OF RANGE FOR FIGURE	4 LINE	1

# VALUES USED FROM GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREDICTIONS

CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

CASE NUMBER  
MACH NUMBER

1  
.50

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
5	1	-.639E+00	.1	5	1	-.398E+00	.191E+00	5	1	-.158E+00	.458E+00
5	1	.830E-01	.	5	1	.830E-01	.876E+00	5	1	.324E+00	.828E+00
5	1	.564E+00	.	5	1	.805E+00	.422E+00	5	1	.105E+01	.303E+00
5	1	.105E+01	.	5	1	.129E+01	.266E+00	5	1	.129E+01	.266E+00
5	1	.153E+01	.242E+00	5	1	-.639E+00	.145E+01	5	1	-.398E+00	.150E+01
4	1	.158E+00	.151E+01	4	1	.830E-01	.110E+01	4	1	.830E-01	.110E+01
4	1	.324E+00	.575E+00	4	1	.564E+00	.382E+00	4	1	.805E+00	.386E+00
4	1	.105E+01	.430E+00	4	1	.129E+01	.430E+00	4	1	.129E+01	.421E+00
4	1	.153E+01	.421E+00	4	1	.153E+01	.397E+00	4	1	.153E+01	.397E+00
14	1	.406E+01	.999E+00	15	1	.218E+01	.142E+01	16	1	.196E+02	.597E+00
31	1	.843E+02	-.886E-03	32	1	.406E+01	0.	33	1	.789E+02	0.
34	1	.843E+02	.409E+00	35	1	.406E+01	0.	36	1	.789E+02	0.
49	1	.349E+00	0.	47	1	.500E+00	.193E-05	48	1	.465E+00	.319E+00
50	1	.500E+00	.113E-05	51	1	.500E+00	.722E-05	52	1	.500E+00	0.
53	1	.465E+00	0.	51	2	.500E+00	.402E-05	52	2	.500E+00	0.
53	1	.465E+00	.409E-05	51	2	.500E+00	.150E-04	52	2	.500E+00	.320E+00
57	1	.843E+02	0.	58	2	.500E+00	-.725E-02	59	1	.115E+03	.224E+00
60	1	.465E+00	.266E+00	71	1	.843E+02	-.130E-01	72	1	.465E+00	0.
73	1	.843E+02	.124E+01	74	1	.465E+00	0.	910	1	.404E+01	.102E+01
911	1	.404E+01	.424E+01	915	3	.500E+00	-.130E+01	912	1	.500E+00	-.440E-03
913	1	.500E+00	.220E-01	914	1	.465E+00	0.	85	1	.243E+02	-.553E-05
86	1	.465E+00	0.	87	1	.843E+02	-.137E-02	88	1	.465E+00	0.
100	1	.843E+02	.218E-03	101	1	.465E+00	0.	102	1	.843E+02	-.202E+00
103	1	.465E+00	0.	85	2	.843E+02	.510E-05	86	2	.465E+00	0.
87	2	.843E+02	-.191E-01	88	2	.465E+00	0.	103	2	.465E+00	0.
101	2	.465E+00	0.	102	2	.843E+02	-.693E-01	103	2	.465E+00	0.
115	2	.500E+00	.17E-02	116	2	.843E+02	.658E-01	117	2	.588E+00	-.277E-01
129	1	.588E+00	.399E-02	130	1	.104E+03	.658E-01	131	1	.218E+01	.141E+01
132	1	.465E+00	.999E+00	133	1	.400E+03	.184E+00	134	1	.450E+02	.800E+00
138	1	.897E+02	.134E+01	139	1	.16E+02	0.	140	1	.160E+00	0.
141	1	.843E+01	.112E+01	146	1	.897E+02	.207E-03	147	1	.465E+00	0.
148	1	.897E+02	-.255E-01	149	1	.465E+00	0.	169	1	.897E+02	-.171E-02
170	1	.588E+00	0.	171	1	.465E+00	0.	172	1	.897E+02	-.204E+00
173	1	.588E+00	0.	174	1	.465E+00	0.	148	2	.897E+02	-.186E-03
147	2	.897E+02	0.	148	2	.897E+02	.651E-02	149	2	.465E+00	0.
169	2	.897E+02	.198E-02	170	2	.588E+00	.787E-03	171	2	.465E+00	0.
172	2	.897E+02	.167E+00	173	2	.588E+00	-.602E-01	174	2	.465E+00	0.
197	1	.897E+02	.700E+00	207	1	.897E+02	.700E+00	194	2	.897E+02	-.601E-04
195	2	.897E+02	.402E-02	204	2	.897E+02	.513E-04	205	2	.897E+02	-.500E-02
214	1	.843E+00	-.562E+00	215	1	.406E+01	.100E+01	225	2	.104E+03	.673E-01
226	1	.897E+02	-.619E+01	237	1	.897E+02	.102E-05	238	1	.465E+00	0.
239	1	.843E+02	.155E-01	240	1	.465E+00	0.	259	1	.897E+02	-.431E-03
240	1	.465E+00	0.	261	1	.897E+02	-.917E-01	262	1	.465E+00	0.
241	2	.897E+02	.381E-03	238	2	.465E+00	0.	239	2	.897E+02	-.833E-02
240	2	.465E+00	0.	259	2	.897E+02	.358E-03	260	2	.465E+00	0.
241	2	.897E+02	-.374E-01	262	2	.465E+00	0.	261	2	.897E+02	-.90E-04
282	2	.897E+02	-.243E-02	291	2	.897E+02	.295E-04	292	2	.897E+02	-.180E-02

VALUES USED FROM GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREDICTIONS  
CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

CASE NUMBER 1  
MACH NUMBER .50

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
301	1	.500E+00	-.679E-03	303	1	.500E+00	-.417E-02	303	2	.500E+00	.191E-02
305	4	.500E+00	-.126E+00	305	5	.500E+00	.943E-01	307	2	.500E+00	-.278E-06
307	3	.500E+00	-.124E+00	308	1	.465E+00	0.	309	1	.500E+00	.318E-03
310	1	.500E+00	-.738E-02	309	2	.500E+00	-.117E-03	310	2	.500E+00	.319E-02
311	1	.500E+00	-.113E-02	313	1	.500E+00	.218E-01	315	1	.153E+00	-.629E-03
312	2	.500E+00	-.259E-04	314	2	.500E+00	.117E-01	317	1	.500E+00	-.131E-01
318	1	.465E+00	0.	319	1	.500E+00	.272E-01	323	1	.500E+00	.120E+01
325	1	.465E+00	.101E+01	324	1	.500E+00	-.173E-01	324	2	.500E+00	-.166E-01
326	2	.500E+00	.157E-01	327	1	.265E+02	.346E-03	328	1	.500E+00	.907E-03
329	1	.943E+02	-.404E-02								

# VALUES USED FROM GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREDICTIONS

CASE NUMBER  
MACH NUMBER

CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
18	1	.843E+02	.699E+00	18	2	.843E+02	.105E+01	19	1	.843E+02	.341E-04
20	1	.843E+02	-.301E-01	38	1	.843E+02	.696E+00	38	2	.843E+02	.105E+01
39	1	.843E+02	-.132E-02	40	1	.843E+02	.117E+01	49	1	.843E+02	0.
47	1	.700E+00	.212E-05	48	1	.465E+00	0.	50	1	.700E+00	.198E-05
51	1	.700E+00	.967E-05	52	1	.700E+00	.320E+00	53	2	.465E+00	0.
47	2	.700E+00	.401E-05	48	1	.465E+00	0.	50	2	.700E+00	.471E-05
51	2	.700E+00	.150E-04	52	2	.700E+00	.320E+00	53	1	.465E+00	0.
55	2	.700E+00	-.725E-02	56	1	.331E+01	.224E+00	57	1	.843E+02	.266E+00
58	1	.843E+02	-.579E+00	62	1	.843E+02	.500E+00	62	2	.843E+02	.700E+00
62	3	.843E+02	.103E+01	63	1	.843E+02	.904E-03	64	1	.843E+02	.381E-01
65	1	.843E+02	.280E-02	66	1	.843E+02	-.456E+00	76	1	.843E+02	.700E+00
76	2	.843E+02	.120E+01	77	1	.843E+02	-.833E+01	78	1	.843E+02	.890E+01
910	2	.404E+01	.450E+01	911	1	.404E+01	.424E+01	915	3	.700E+00	-.120E+01
912	1	.700E+00	-.660E-03	913	1	.700E+00	.300E-01	914	2	.465E+00	0.
91	1	.843E+02	.700E+00	91	2	.843E+02	.120E+01	92	1	.843E+02	-.110E-04
93	1	.465E+00	0.	94	1	.843E+02	.117E-01	95	1	.465E+00	0.
106	1	.843E+02	.698E+00	106	2	.843E+02	.120E+01	107	1	.465E+00	.116E-03
108	1	.465E+00	0.	109	1	.843E+02	-.214E+00	110	1	.465E+00	0.
119	1	.843E+02	.703E+00	109	1	.843E+02	.120E+01	115	2	.700E+00	.104E-02
177	1	.843E+02	.703E+00	105	1	.843E+02	.794E+00	152	1	.897E+02	.703E+00
176	1	.897E+02	.703E+00	134	1	.450E+02	.800E+00	176	1	.897E+02	.694E+00
176	2	.897E+02	.902E+00	151	1	.897E+02	.717E+00	179	2	.465E+00	0.
180	2	.897E+02	.258E-01	178	2	.897E+02	-.860E-03	197	1	.897E+02	.700E+00
197	2	.897E+02	.902E+00	181	2	.465E+00	0.	197	2	.897E+02	-.751E-04
199	2	.897E+02	.902E+00	207	1	.897E+02	.700E+00	199	2	.897E+02	.120E+01
218	1	.897E+02	.525E-02	217	1	.104E+02	.698E+00	217	2	.104E+03	.120E+01
227	1	.897E+02	-.100E-02	219	1	.897E+02	.154E+00	220	1	.210E+01	-.246E+00
229	1	.897E+02	.500E+00	227	2	.897E+02	.854E+00	220	1	.897E+02	.417E-02
242	1	.897E+02	-.936E+00	242	1	.897E+02	.703E+00	264	1	.897E+02	.702E+00
242	1	.897E+02	.703E+00	264	1	.897E+02	.702E+00	284	1	.897E+02	.701E+00
294	1	.897E+02	.701E+00	301	1	.700E+00	-.853E-03	303	1	.700E+00	-.282E-02
303	2	.700E+00	.538E-02	305	4	.700E+00	.134E+00	305	5	.700E+00	.932E-01
307	2	.700E+00	-.235E-02	307	3	.700E+00	-.118E+00	308	1	.465E+00	0.
310	1	.700E+00	.310E-03	316	1	.700E+00	-.746E-02	309	2	.700E+00	-.115E-03
315	2	.700E+00	.288E-02	311	1	.700E+00	-.735E-03	313	1	.700E+00	.202E-01
317	1	.153E+00	-.629E-03	312	2	.538E+00	-.259E-04	314	2	.588E+00	.117E-01
323	1	.700E+00	-.132E-01	318	1	.465E+00	0.	319	2	.843E+02	.279E-01
324	1	.588E+00	.120E+01	325	1	.465E+00	.101E+01	324	1	.700E+00	-.197E-01
328	2	.700E+00	-.169E-01	326	2	.700E+00	.397E-02	327	1	.265E+00	.346E-03
328	1	.588E+00	.907E-03	329	1	.843E+02	-.404E-02				

VALUES USED FROM GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREDICTIONS

CASE NUMBER 1  
MACH NUMBER .90

CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTED PYLON FOR INTERFERENCE

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
18	1	.843E+02	.699E+00	19	1	.843E+02	.105E+01	19	1	.843E+02	.341E-04
18	2	.843E+02	.301E-01	30	2	.843E+02	.696E+00	30	2	.843E+02	.105E+01
20	1	.843E+02	.132E-02	40	1	.843E+02	.117E+01	40	1	.843E+02	0.
39	1	.843E+02	.235E-05	50	1	.843E+02	0.	50	1	.843E+02	.320E-05
47	1	.900E+00	.179E-04	52	1	.900E+00	.337E+00	52	1	.900E+00	0.
51	1	.900E+00	.383E-05	53	1	.900E+00	0.	53	1	.900E+00	.415E-05
47	2	.900E+00	.159E-04	53	2	.900E+00	.357E+00	53	2	.900E+00	0.
51	2	.900E+00	.726E-02	57	2	.900E+00	.525E-01	57	2	.900E+00	.305E+00
55	2	.843E+02	.368E+00	62	2	.843E+02	.500E+00	62	2	.843E+02	.700E+00
58	2	.843E+02	.105E+01	64	1	.843E+02	.904E+03	64	1	.843E+02	.381E-01
62	3	.843E+02	.280E-02	76	1	.843E+02	-.456E+00	76	1	.843E+02	.700E+00
65	1	.843E+02	.120E+01	77	1	.843E+02	-.833E-01	77	1	.843E+02	.890E+01
76	2	.420E+01	.414E+01	911	1	.420E+01	.441E+01	911	1	.420E+01	-.140E+01
910	2	.900E+00	-.750E-03	913	1	.900E+00	.450E-01	913	1	.900E+00	0.
91	1	.843E+02	.700E+00	91	2	.843E+02	.120E+01	91	2	.843E+02	-.110E-04
93	1	.465E+00	0.	94	1	.843E+02	.117E-01	94	1	.843E+02	0.
106	1	.843E+02	.698E+00	106	2	.843E+02	.120E+01	106	2	.843E+02	.116E-03
108	1	.465E+00	0.	109	1	.843E+02	-.214E+00	109	1	.465E+00	0.
90	1	.843E+02	.703E+00	90	2	.843E+02	.110E+01	90	2	.843E+02	-.926E-05
93	2	.465E+00	0.	94	2	.843E+02	.195E-01	94	2	.465E+00	0.
105	1	.843E+02	.794E+00	105	2	.843E+02	.110E+01	105	2	.843E+02	.261E-03
108	2	.465E+00	0.	109	2	.843E+02	-.405E+00	109	2	.465E+00	0.
115	2	.900E+00	.736E-03	122	1	.843E+02	.703E+00	122	1	.843E+02	.903E+00
121	2	.843E+02	.107E-05	134	2	.843E+02	-.832E-02	134	2	.843E+02	-.982E-05
124	2	.465E+00	.190E+00	137	1	.100E+00	.800E+00	135	1	.588E+00	.335E+00
136	1	.512E+02	.138E-01	143	1	.302E+01	.140E+00	144	1	.531E+00	.398E+01
142	1	.205E+04	.117E-01	152	2	.897E+02	.302E+00	145	1	.588E+00	.109E+01
152	1	.897E+02	.703E+00	155	1	.897E+02	.757E-02	153	1	.897E+02	.147E-03
154	1	.465E+00	0.	177	2	.897E+02	.902E+00	156	1	.465E+00	0.
177	1	.897E+02	.703E+00	180	1	.897E+02	.106E-01	178	1	.897E+02	-.463E-03
179	1	.465E+00	0.	151	2	.897E+02	.905E+00	181	1	.465E+00	0.
151	1	.897E+02	.717E+00	155	2	.897E+02	.905E+00	153	2	.897E+02	.946E-04
154	2	.465E+00	0.	176	2	.897E+02	-.847E-02	156	2	.465E+00	0.
176	1	.897E+02	.698E+00	180	2	.897E+02	.902E+00	178	2	.897E+02	-.860E-03
179	2	.465E+00	0.	197	2	.897E+02	.258E-01	181	2	.465E+00	0.
197	1	.897E+02	.700E+00	198	2	.897E+02	.902E+00	207	1	.897E+02	.700E+00
207	1	.897E+02	.901E+00	209	2	.897E+02	-.751E-04	207	2	.897E+02	.525E-02
208	2	.897E+02	.666E-03	217	1	.897E+02	-.417E-01	217	1	.104E+03	.698E+00
217	2	.104E+03	.120E+01	228	1	.897E+02	-.100E-02	219	1	.897E+02	.154E+00
220	1	.218E+01	-.246E+00	231	1	.897E+02	.500E+00	229	2	.897E+02	.854E+00
227	3	.897E+02	.106E+01	231	2	.897E+02	.417E-02	229	1	.897E+02	-.936E+00
230	1	.897E+02	.764E-01	242	1	.897E+02	-.342E+01	232	1	.588E+00	.998E+00
242	1	.465E+00	.703E+00	245	2	.897E+02	.902E+00	243	1	.897E+02	-.380E-03
244	1	.897E+02	.703E+00	264	1	.897E+02	.157E-01	246	1	.465E+00	0.
266	1	.897E+02	.703E+00	264	2	.897E+02	.907E+00	265	1	.897E+02	.307E-02
242	1	.465E+00	0.	267	1	.897E+02	-.112E+00	268	1	.465E+00	0.
242	1	.897E+02	.703E+00	242	2	.897E+02	-.902E+00	243	2	.897E+02	-.457E-03
244	2	.465E+00	0.	245	2	.897E+02	.204E-01	246	2	.465E+00	0.

VALUES USED FROM GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREDICTIONS  
CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

CASE NUMBER 1  
MACH NUMBER .50

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
264	1	.897E+02	.702E+00	264	2	.897E+02	.907E+00	265	2	.897E+02	.336E-02
266	2	.465E+00	0.	267	2	.897E+02	-.139E+00	268	2	.465E+00	-.497E-03
284	1	.897E+02	.761E+00	284	2	.897E+02	.901E+00	285	2	.897E+02	.746E-04
286	2	.897E+02	-.622E-02	294	1	.897E+02	.701E+00	294	2	.897E+02	.903E+00
295	2	.897E+02	-.132E-02	296	2	.897E+02	.731E-01	301	1	.900E+00	-.380E-02
303	1	.903E+00	-.221E-02	303	2	.900E+00	.114E-01	305	4	.900E+00	.178E+00
305	5	.900E+00	.126E+00	307	2	.900E+00	-.448E-01	307	3	.900E+00	.121E-01
308	1	.465E+00	0.	309	1	.900E+00	.320E-03	310	1	.900E+00	-.051E-02
309	2	.903E+00	.366E-03	310	2	.900E+00	-.505E-02	311	1	.900E+00	-.456E-03
313	1	.900E+00	.829E-02	315	1	.153E+00	-.629E-03	312	2	.588E+00	-.259E-04
314	2	.588E+00	.117E-01	317	1	.900E+00	-.131E-01	318	1	.465E+00	0.
320	1	.843E+02	.278E-01	323	1	.588E+00	.120E+01	325	2	.465E+00	.101E+01
324	1	.900E+00	-.201E-01	324	2	.900E+00	-.190E-01	326	2	.900E+00	-.280E-01
327	2	.265E+02	.295E-03	327	3	.265E+02	.351E-03	324	2	.588E+00	.790E-03
328	3	.588E+00	.161E-03	329	2	.843E+02	-.412E-02	329	3	.843E+02	-.379E-02



VALUES USED FROM GRAPHS IN CALCULATION OF CAPTIVE AIRLAYS PREDICTIONS

CASE NUMBER 1  
MACH NUMBER 1.20

CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
18	1	.843E+02	.699E+00	18	2	.843E+02	.105E+01	18	3	.843E+02	.120E+01	18	4	.843E+02	.120E+01
18	4	.843E+02	.160E+01	21	1	.588E+00	.101E+01	22	1	.811E+00	.100E+01	22	2	.811E+00	.100E+01
23	1	.588E+00	.993E+00	24	1	.811E+00	.135E+01	25	1	.588E+00	.100E+01	25	2	.811E+00	.100E+01
26	1	.811E+00	.382E-04	27	1	.588E+00	.102E+01	28	1	.811E+00	.100E+01	28	2	.811E+00	.100E+01
38	1	.843E+02	.696E+00	38	2	.843E+02	.105E+01	38	3	.843E+02	.160E+01	38	4	.843E+02	.160E+01
39	1	.843E+02	.132E-02	40	1	.843E+02	.117E+01	41	1	.843E+02	.160E+01	41	2	.843E+02	.160E+01
42	1	.406E+01	0.	43	1	.843E+02	.117E+01	44	1	.406E+01	0.	44	2	.843E+02	.160E+01
49	1	.349E+00	0.	47	1	.120E+01	.217E-05	48	1	.465E+00	0.	48	2	.120E+01	.333E+00
50	1	.120E+01	.188E-05	51	1	.120E+01	.265E-04	52	1	.120E+01	.333E+00	52	2	.120E+01	.333E+00
53	1	.465E+00	0.	51	2	.120E+01	.351E-05	52	2	.120E+01	.333E+00	52	3	.120E+01	.333E+00
53	2	.120E+01	.145E-05	55	2	.120E+01	.229E-04	56	2	.120E+01	.333E+00	56	3	.120E+01	.333E+00
57	1	.465E+00	0.	55	3	.843E+02	.105E+01	62	1	.843E+02	.160E+01	62	2	.843E+02	.160E+01
62	2	.843E+02	.823E+00	58	3	.843E+02	.105E+01	62	3	.843E+02	.160E+01	62	4	.843E+02	.160E+01
65	1	.843E+02	.700E+00	66	1	.843E+02	.105E+01	67	1	.843E+02	.160E+01	67	2	.843E+02	.160E+01
68	1	.843E+02	.240E-02	76	1	.843E+02	.105E+01	76	2	.843E+02	.160E+01	76	3	.843E+02	.160E+01
77	1	.843E+02	.497E+00	76	2	.843E+02	.105E+01	91	1	.843E+02	.160E+01	91	2	.843E+02	.160E+01
77	2	.843E+02	.833E-01	78	1	.843E+02	.105E+01	91	3	.843E+02	.160E+01	91	4	.843E+02	.160E+01
91	1	.843E+02	.120E+01	92	1	.843E+02	.105E+01	93	1	.843E+02	.160E+01	93	2	.843E+02	.160E+01
94	1	.843E+02	.117E-01	95	1	.843E+02	.105E+01	93	3	.843E+02	.160E+01	93	4	.843E+02	.160E+01
106	1	.843E+02	.120E+01	107	1	.843E+02	.105E+01	106	1	.843E+02	.160E+01	106	2	.843E+02	.160E+01
109	1	.843E+02	.120E+01	110	1	.843E+02	.105E+01	109	1	.843E+02	.160E+01	109	2	.843E+02	.160E+01
109	2	.843E+02	.110E+01	90	3	.843E+02	.105E+01	90	4	.843E+02	.160E+01	90	5	.843E+02	.160E+01
93	1	.465E+00	0.	94	2	.843E+02	.105E+01	95	2	.843E+02	.160E+01	95	3	.843E+02	.160E+01
93	2	.843E+02	.413E-05	97	2	.843E+02	.105E+01	95	4	.843E+02	.160E+01	95	5	.843E+02	.160E+01
96	1	.843E+02	.160E+01	105	1	.843E+02	.105E+01	98	2	.843E+02	.160E+01	98	3	.843E+02	.160E+01
99	1	.843E+02	.160E+01	105	2	.843E+02	.105E+01	98	4	.843E+02	.160E+01	98	5	.843E+02	.160E+01
105	2	.843E+02	.160E+01	107	2	.843E+02	.105E+01	108	2	.843E+02	.160E+01	108	3	.843E+02	.160E+01
109	2	.843E+02	.160E+01	110	2	.843E+02	.105E+01	108	4	.843E+02	.160E+01	108	5	.843E+02	.160E+01
112	1	.843E+02	.160E+01	113	2	.843E+02	.105E+01	111	2	.843E+02	.160E+01	111	3	.843E+02	.160E+01
115	1	.843E+02	.160E+01	119	1	.843E+02	.105E+01	114	2	.843E+02	.160E+01	114	3	.843E+02	.160E+01
119	1	.843E+02	.160E+01	121	2	.843E+02	.105E+01	119	4	.843E+02	.160E+01	119	5	.843E+02	.160E+01
123	1	.843E+02	.160E+01	124	2	.843E+02	.105E+01	122	2	.843E+02	.160E+01	122	3	.843E+02	.160E+01
126	1	.843E+02	.160E+01	127	2	.843E+02	.105E+01	125	2	.843E+02	.160E+01	125	3	.843E+02	.160E+01
134	1	.400E+00	.800E+00	135	1	.588E+00	.105E+01	128	2	.843E+02	.160E+01	128	3	.843E+02	.160E+01
137	1	.400E+00	.800E+00	144	1	.588E+00	.105E+01	136	1	.512E+02	.138E-01	136	2	.512E+02	.138E-01
143	1	.302E+01	.01E+01	145	1	.588E+00	.105E+01	142	1	.205E+04	.117E-01	142	2	.205E+04	.117E-01
152	1	.897E+02	.902E+00	152	3	.897E+02	.105E+01	152	4	.897E+02	.120E+01	152	5	.897E+02	.120E+01
157	1	.897E+02	.635E-04	158	1	.465E+00	0.	152	6	.897E+02	.146E-02	152	7	.897E+02	.146E-02
160	1	.465E+00	0.	161	1	.897E+02	.105E+01	159	1	.465E+00	0.	159	2	.465E+00	0.
163	1	.897E+02	.361E-02	164	1	.897E+02	.105E+01	162	1	.465E+00	0.	162	3	.465E+00	0.
177	1	.897E+02	.902E+00	177	3	.897E+02	.105E+01	177	4	.897E+02	.120E+01	177	5	.897E+02	.120E+01
182	1	.897E+02	.527E-03	183	1	.465E+00	0.	177	6	.897E+02	.146E-02	177	7	.897E+02	.146E-02
185	1	.465E+00	0.	186	1	.897E+02	.105E+01	184	1	.465E+00	0.	184	2	.465E+00	0.
188	1	.897E+02	.157E-01	189	1	.897E+02	.105E+01	187	1	.465E+00	0.	187	2	.465E+00	0.
151	1	.897E+02	.905E+00	151	3	.897E+02	.105E+01	151	4	.897E+02	.120E+01	151	5	.897E+02	.120E+01
157	1	.897E+02	.133E-03	158	2	.465E+00	0.	151	6	.897E+02	.146E-02	151	7	.897E+02	.146E-02
160	1	.465E+00	0.	161	2	.897E+02	.105E+01	162	2	.465E+00	0.	162	3	.465E+00	0.
163	1	.897E+02	.142E-01	164	2	.465E+00	0.	162	4	.897E+02	.120E+01	162	5	.897E+02	.120E+01
176	1	.897E+02	.902E+00	176	3	.897E+02	.105E+01	176	4	.897E+02	.120E+01	176	5	.897E+02	.120E+01

CASE NUMBER 1  
MACH NUMBER 1.20

VALUES USED FROM GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREDICTIONS

CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
182	2	.897E+02	-.323E-03	183	2	.465E+00	0.	184	2	.897E+02	.692E-02	185	2	.465E+00	0.
185	2	.465E+00	0.	186	2	.897E+02	.556E-03	187	2	.465E+00	0.	188	2	.897E+02	.700E+00
188	2	.897E+02	-.888E-01	189	2	.465E+00	0.	197	1	.897E+02	.751E-04	207	2	.897E+02	.183E-02
197	2	.897E+02	.902E+00	198	3	.897E+02	.120E+01	207	2	.897E+02	.183E-02	208	2	.897E+02	-.326E-03
207	2	.897E+02	.901E+00	207	3	.897E+02	.120E+01	208	2	.897E+02	.120E+01	209	2	.897E+02	.120E+01
207	2	.897E+02	.525E-02	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	210	2	.897E+02	.120E+01
207	2	.897E+02	.666E-03	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
208	2	.897E+02	.520E-02	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
211	2	.897E+02	-.100E-02	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
218	1	.897E+02	.500E+00	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
227	1	.897E+02	.161E+01	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
227	4	.897E+02	.988E+00	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
232	1	.897E+02	.703E+00	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
242	1	.897E+02	.120E+01	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
242	4	.897E+02	.496E-02	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
249	1	.465E+00	0.	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
252	1	.897E+02	.702E+00	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
254	1	.897E+02	.120E+01	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
264	1	.897E+02	.338E-01	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
271	1	.897E+02	0.	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
274	1	.465E+00	0.	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
274	1	.897E+02	.703E+00	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
282	1	.897E+02	.120E+01	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
282	4	.897E+02	-.897E-02	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
289	2	.465E+00	0.	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
289	2	.897E+02	.702E+00	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
289	4	.897E+02	.120E+01	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
294	2	.465E+00	0.	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
294	2	.897E+02	.702E+00	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
294	4	.897E+02	.120E+01	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
303	1	.897E+02	-.115E-02	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
303	5	.120E+01	.292E+00	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
308	1	.465E+00	0.	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
308	2	.120E+01	.364E-03	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
309	2	.120E+01	-.383E-01	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
313	1	.120E+01	.117E-01	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
314	2	.588E+00	.233E-02	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
321	1	.120E+01	-.199E-01	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
324	1	.120E+01	.351E-03	207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01
327	3	.265E+02		207	3	.897E+02	.120E+01	209	2	.897E+02	.120E+01	211	2	.897E+02	.120E+01

# VALUES USED FOR GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREDICTIONS

CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE 1-7 OUTBOARD  
PYLON WITH A 500 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

CASE NUMBER 1  
MACH NUMBER 1.40

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
13	1	.843E+02	.699E+00	18	2	.343E+02	.105E+01	18	3	.843E+02	.120E+01
14	4	.843E+02	.150E+01	21	1	.538E+00	.101E+01	22	1	.811E+00	-.440E-05
23	1	.588E+00	.993E+00	24	1	.811E+00	.135E-01	25	1	.588E+00	.100E+01
26	1	.811E+00	-.382E-04	27	1	.588E+00	.102E+01	28	1	.811E+00	.575E-01
38	1	.843E+02	.696E+00	38	2	.843E+02	.105E+01	38	3	.843E+02	.160E+01
39	1	.843E+02	-.132E-02	40	1	.843E+02	.117E+01	41	1	.843E+02	.761E-03
42	1	.406E+01	0.	43	1	.843E+02	-.228E+00	44	1	.406E+01	0.
49	1	.349E+00	0.	47	1	.140E+01	.216E-05	48	4	.465E+00	0.
52	1	.140E+01	.272E+00	50	1	.140E+01	.350E-05	51	1	.140E+01	.287E-04
52	1	.140E+01	.365E-05	53	3	.465E+00	0.	53	4	.465E+00	0.
47	2	.140E+01	.266E-05	48	4	.465E+00	0.	48	5	.465E+00	0.
50	2	.140E+01	0.	51	2	.140E+01	0.	52	2	.140E+01	0.
53	3	.465E+00	0.	53	4	.465E+00	0.	55	2	.140E+01	-.512E-02
56	3	.331E+01	.240E+00	56	4	.331E+01	.262E+00	58	4	.843E+02	-.901E+00
57	4	.843E+02	.626E+00	58	3	.843E+02	-.148E+01	62	3	.843E+02	.105E+01
62	1	.843E+02	.509E+00	62	2	.843E+02	.700E+00	66	1	.843E+02	-.456E+00
67	4	.843E+02	.160E+01	65	1	.843E+02	.280E-02	76	1	.843E+02	.700E+00
67	1	.843E+02	.553E-02	68	1	.843E+02	-.497E+00	77	1	.843E+02	-.833E-01
76	2	.843E+02	.120E+01	76	3	.843E+02	.160E+01	80	1	.406E+01	0.
76	1	.843E+02	.890E+01	79	1	.843E+02	.355E-01	81	1	.843E+02	.700E+00
81	1	.843E+02	-.395E+00	82	1	.406E+01	0.	91	1	.843E+02	-.110E-04
91	2	.843E+02	.120E+01	91	3	.843E+02	.160E+01	95	1	.465E+00	0.
93	1	.465E+00	0.	94	1	.843E+02	.117E-01	98	1	.843E+02	-.133E-01
99	1	.465E+00	.725E-05	97	1	.465E+00	0.	106	2	.465E+00	.120E+01
106	3	.843E+02	.160E+01	106	1	.843E+02	.698E+00	108	1	.843E+02	-.106E-03
109	1	.843E+02	-.214E+00	107	1	.843E+02	.116E-01	114	1	.465E+00	0.
112	1	.465E+00	0.	110	1	.465E+00	0.	114	1	.465E+00	0.
90	1	.843E+02	.703E+00	113	1	.843E+02	.591E-01	114	1	.465E+00	0.
92	2	.843E+02	-.926E-05	93	2	.465E+00	0.	94	2	.843E+02	.160E+01
95	2	.465E+00	0.	96	2	.843E+02	.413E-05	97	2	.465E+00	.195E-01
98	2	.843E+02	-.668E-02	99	2	.465E+00	0.	105	1	.843E+02	.794E+00
105	2	.843E+02	.105E+01	105	3	.843E+02	.160E+01	107	2	.843E+02	.261E-03
108	2	.465E+00	0.	109	2	.843E+02	-.405E+00	110	2	.465E+00	0.
111	2	.843E+02	.275E-04	112	2	.465E+00	0.	113	2	.465E+00	0.
114	2	.465E+00	0.	115	2	.140E+01	.274E-02	119	2	.843E+02	-.116E+00
119	2	.843E+02	.903E+00	119	3	.843E+02	.160E+01	121	2	.843E+02	.107E-05
122	2	.843E+02	-.832E-02	123	2	.843E+02	-.932E-05	124	2	.843E+02	-.190E+00
125	2	.843E+02	-.176E-04	126	2	.843E+02	.626E-02	127	2	.843E+02	-.229E-03
128	2	.843E+02	.314E+00	134	1	.450E+02	.800E+00	135	1	.588E+00	.335E+00
136	1	.512E+02	.139E-01	137	1	.600E+01	.992E+00	144	1	.531E+00	.338E+01
142	1	.205E+04	.117E-01	143	1	.302E+01	.101E+01	145	1	.588E+00	.109E+01
152	1	.897E+02	.703E+00	152	2	.897E+02	.902E+00	152	3	.897E+02	.105E+01
162	1	.465E+00	.120E+01	152	5	.897E+02	.160E+01	161	1	.897E+02	-.878E-04
165	1	.897E+02	-.117E-03	163	1	.897E+02	.361E-02	164	1	.465E+00	0.
168	1	.465E+00	0.	166	1	.465E+00	0.	167	1	.897E+02	.107E-01
177	3	.897E+02	.106E+01	177	4	.897E+02	.702E+00	177	2	.897E+02	.902E+00
								177	5	.897E+02	.160E+01

# VALUES USED FROM GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREDICTIONS

CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

CASE NUMBER 1  
MACH NUMBER 1.40

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
186	1	.897E+02	-.713E-03	187	1	.465E+00	0.	188	1	.897E+02	.157E-01
189	1	.465E+00	0.	190	1	.297E+02	-.395E-04	191	1	.465E+00	0.
192	1	.897E+02	-.699E-01	193	1	.465E+00	0.	194	1	.897E+02	.717E+00
195	2	.897E+02	.905E+00	196	3	.897E+02	.106E+01	197	4	.897E+02	.160E+01
197	2	.897E+02	-.133E-03	198	2	.465E+00	0.	199	2	.897E+02	.280E-02
199	2	.465E+00	0.	200	2	.897E+02	-.254E-03	201	2	.465E+00	0.
201	2	.897E+02	.142E-01	202	2	.465E+00	0.	203	1	.897E+02	.698E+00
203	2	.897E+02	.902E+00	204	3	.897E+02	.110E+01	205	4	.897E+02	.160E+01
205	2	.897E+02	-.323E-03	206	2	.465E+00	0.	207	2	.897E+02	.692E-02
207	2	.465E+00	0.	208	2	.897E+02	.556E-03	209	2	.465E+00	0.
209	2	.897E+02	-.888E-01	210	2	.465E+00	0.	211	1	.897E+02	.700E+00
211	2	.897E+02	.902E+00	212	2	.897E+02	.120E+01	213	4	.897E+02	.160E+01
213	2	.897E+02	.700E+00	214	2	.897E+02	.901E+00	215	3	.897E+02	.120E+01
215	2	.897E+02	.160E-04	216	2	.897E+02	-.210E-04	217	2	.897E+02	.183E-02
217	2	.897E+02	.520E-02	218	2	.897E+02	.530E-02	219	2	.897E+02	-.326E-03
219	2	.897E+02	.520E-02	220	2	.897E+02	.530E-02	221	2	.897E+02	-.282E-01
221	2	.897E+02	.520E-02	222	2	.897E+02	.530E-02	223	3	.104E+03	.160E+01
223	2	.897E+02	.520E-02	224	2	.897E+02	.530E-02	225	3	.104E+03	.160E+01
225	2	.897E+02	.520E-02	226	2	.897E+02	.530E-02	227	1	.218E+01	-.246E+00
227	2	.897E+02	.520E-02	228	2	.897E+02	.530E-02	229	1	.897E+02	.500E+00
229	2	.897E+02	.520E-02	230	2	.897E+02	.530E-02	231	4	.897E+02	.161E+01
231	2	.897E+02	.520E-02	232	2	.897E+02	.530E-02	233	1	.580E+00	.998E+00
233	2	.897E+02	.520E-02	234	2	.897E+02	.530E-02	235	1	.897E+02	.703E+00
235	2	.897E+02	.520E-02	236	2	.897E+02	.530E-02	237	4	.897E+02	.120E+01
237	2	.897E+02	.520E-02	238	2	.897E+02	.530E-02	239	1	.465E+00	0.
239	2	.897E+02	.520E-02	240	2	.897E+02	.530E-02	241	1	.897E+02	.251E-03
241	2	.897E+02	.520E-02	242	2	.897E+02	.530E-02	243	1	.465E+00	0.
243	2	.897E+02	.520E-02	244	2	.897E+02	.530E-02	245	3	.897E+02	.105E+01
245	2	.897E+02	.520E-02	246	2	.897E+02	.530E-02	247	1	.897E+02	.266E-02
247	2	.897E+02	.520E-02	248	2	.897E+02	.530E-02	249	1	.465E+00	0.
249	2	.897E+02	.520E-02	250	2	.897E+02	.530E-02	251	1	.897E+02	.871E-01
251	2	.897E+02	.520E-02	252	2	.897E+02	.530E-02	253	2	.897E+02	.902E+00
253	2	.897E+02	.520E-02	254	2	.897E+02	.530E-02	255	2	.897E+02	.160E+01
255	2	.897E+02	.520E-02	256	2	.897E+02	.530E-02	257	2	.897E+02	.460E-02
257	2	.897E+02	.520E-02	258	2	.897E+02	.530E-02	259	2	.465E+00	0.
259	2	.897E+02	.520E-02	260	2	.897E+02	.530E-02	261	2	.897E+02	.702E+00
261	2	.897E+02	.520E-02	262	2	.897E+02	.530E-02	263	1	.897E+02	.120E+01
263	2	.897E+02	.520E-02	264	2	.897E+02	.530E-02	265	2	.465E+00	0.
265	2	.897E+02	.520E-02	266	2	.897E+02	.530E-02	267	2	.897E+02	.196E-02
267	2	.897E+02	.520E-02	268	2	.897E+02	.530E-02	269	2	.465E+00	0.
269	2	.897E+02	.520E-02	270	2	.897E+02	.530E-02	271	2	.897E+02	.120E+01
271	2	.897E+02	.520E-02	272	2	.897E+02	.530E-02	273	3	.897E+02	.120E+01
273	2	.897E+02	.520E-02	274	2	.897E+02	.530E-02	275	2	.897E+02	.701E+00
275	2	.897E+02	.520E-02	276	2	.897E+02	.530E-02	277	2	.897E+02	.915E+00
277	2	.897E+02	.520E-02	278	2	.897E+02	.530E-02	279	2	.897E+02	.701E+00
279	2	.897E+02	.520E-02	280	2	.897E+02	.530E-02	281	2	.897E+02	.701E+00
281	2	.897E+02	.520E-02	282	2	.897E+02	.530E-02	283	2	.897E+02	.701E+00
283	2	.897E+02	.520E-02	284	2	.897E+02	.530E-02	285	2	.897E+02	.701E+00
285	2	.897E+02	.520E-02	286	2	.897E+02	.530E-02	287	2	.897E+02	.701E+00
287	2	.897E+02	.520E-02	288	2	.897E+02	.530E-02	289	2	.897E+02	.701E+00
289	2	.897E+02	.520E-02	290	2	.897E+02	.530E-02	291	2	.897E+02	.701E+00
291	2	.897E+02	.520E-02	292	2	.897E+02	.530E-02	293	2	.897E+02	.701E+00
293	2	.897E+02	.520E-02	294	2	.897E+02	.530E-02	295	2	.897E+02	.701E+00
295	2	.897E+02	.520E-02	296	2	.897E+02	.530E-02	297	2	.897E+02	.701E+00
297	2	.897E+02	.520E-02	298	2	.897E+02	.530E-02	299	2	.897E+02	.701E+00
299	2	.897E+02	.520E-02	300	2	.897E+02	.530E-02	301	2	.897E+02	.701E+00
301	2	.897E+02	.520E-02	302	2	.897E+02	.530E-02	303	2	.897E+02	.701E+00
303	2	.897E+02	.520E-02	304	2	.897E+02	.530E-02	305	2	.897E+02	.701E+00
305	2	.897E+02	.520E-02	306	2	.897E+02	.530E-02	307	2	.897E+02	.701E+00
307	2	.897E+02	.520E-02	308	2	.897E+02	.530E-02	309	2	.897E+02	.701E+00

VALUES USED FROM GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREDICTIONS  
CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

CASE NUMBER 1  
MACH NUMBER 1.43

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
310	2	.140E+01	.439E-02	313	1	.140E+01	.379E-03
315	1	.153E+00	-.629E-03	314	2	.588E+00	-.259E-04
317	1	.140E+01	-.919E-02	318	2	.465E+00	0.
321	1	.843E+02	.233E-02	323	1	.588E+00	.120E+01
325	2	.465E+00	.101E+01	324	1	.140E+01	-.180E-01
324	2	.140E+01	-.160E-01	327	3	.265E+02	.351E-03
327	4	.265E+02	.149E-03	328	4	.588E+00	.346E-03
329	3	.843E+02	-.379E-02				

VALUES USED FROM GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREUCTIONS

CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

CASE NUMBER 1  
MACH NUMBER 1.60

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
18	1	.843E+02	.699E+00	18	3	.843E+02	.105E+01	18	3	.843E+02	.120E+01
18	4	.843E+02	.160E+01	21	1	.843E+02	.101E+01	22	1	.811E+00	.440E-05
23	1	.588E+00	.993E+00	24	1	.811E+00	.135E-01	25	1	.588E+00	.109E+01
26	1	.811E+00	.382E-04	27	1	.588E+00	.102E+01	28	1	.811E+00	.572E-01
38	1	.843E+02	.696E+00	38	2	.843E+02	.105E+01	38	3	.843E+02	.160E+01
38	4	.843E+02	.200E+01	41	1	.843E+02	.761E-03	42	1	.406E+01	0.
43	1	.843E+02	.228E+00	44	1	.406E+01	0.	45	1	.843E+02	.153E-03
46	1	.843E+02	.403E+00	49	1	.349E+00	0.	47	1	.160E+01	.216E-05
48	5	.465E+00	0.	50	1	.465E+00	.433E-05	51	1	.160E+01	.301E-04
52	1	.160E+01	.221E+00	53	4	.465E+00	0.	51	2	.160E+01	.359E-05
48	5	.465E+00	0.	50	2	.160E+01	.338E-05	55	2	.160E+01	.362E-02
52	2	.160E+01	.270E+00	53	4	.465E+00	0.	58	4	.843E+02	.901E+00
56	4	.331E+01	.262E+00	57	4	.843E+02	.626E+00	58	4	.843E+02	.105E+01
62	1	.843E+02	.500E+00	62	2	.843E+02	.700E+00	62	3	.843E+02	.456E+00
62	4	.843E+02	.160E+01	65	1	.843E+02	.280E-02	66	1	.843E+02	.700E+00
67	1	.843E+02	.553E-02	68	1	.843E+02	.497E+00	77	1	.843E+02	.700E+00
76	2	.843E+02	.120E+01	76	3	.843E+02	.160E+01	77	1	.843E+02	.833E-01
78	1	.843E+02	.890E+01	79	1	.843E+02	.356E-01	80	1	.406E+01	0.
81	1	.843E+02	.395E+00	82	1	.406E+01	0.	81	1	.843E+02	.700E+00
91	2	.843E+02	.120E+01	91	3	.843E+02	.160E+01	92	1	.843E+02	.110E-04
93	1	.465E+00	0.	94	1	.843E+02	.117E-01	95	1	.465E+00	0.
96	1	.843E+02	.725E-05	97	1	.465E+00	0.	98	1	.843E+02	.133E-01
99	1	.465E+00	0.	106	1	.843E+02	.698E+00	106	2	.843E+02	.120E+01
106	1	.843E+02	.160E+01	107	1	.843E+02	.116E-03	108	1	.465E+00	0.
109	1	.843E+02	.214E+00	110	1	.465E+00	0.	111	1	.843E+02	.105E-03
112	1	.465E+00	0.	113	1	.843E+02	.591E-01	114	1	.465E+00	0.
90	1	.843E+02	.703E+00	90	2	.843E+02	.110E+01	90	3	.843E+02	.160E+01
96	2	.843E+02	.413E-05	97	2	.465E+00	0.	98	2	.843E+02	.668E-02
99	2	.465E+00	0.	105	2	.843E+02	.794E+00	105	2	.843E+02	.110E+01
105	3	.843E+02	.160E+01	111	2	.843E+02	.275E-04	112	2	.465E+00	0.
113	2	.843E+02	.166E+00	114	2	.465E+00	0.	115	2	.160E+01	.128E-02
119	1	.843E+02	.703E+00	119	2	.843E+02	.903E+00	119	3	.843E+02	.160E+01
121	2	.843E+02	.107E-05	122	2	.843E+02	.832E-02	123	2	.843E+02	.982E-05
124	2	.843E+02	.190E+00	125	2	.843E+02	.176E-04	126	2	.843E+02	.626E-02
127	2	.843E+02	.229E-03	128	2	.843E+02	.314E+00	134	1	.450E+02	.800E+00
135	1	.588E+00	.335E+00	136	1	.512E+02	.138E-01	137	1	.800E+00	.986E+00
144	1	.531E+00	.398E+01	142	1	.205E+04	.117E-01	143	1	.302E+01	.101E+01
145	1	.588E+00	.109E+01	152	1	.897E+02	.703E+00	152	2	.897E+02	.902E+00
152	3	.897E+02	.105E+01	152	4	.897E+02	.120E+01	152	5	.897E+02	.160E+01
161	1	.897E+02	.878E-04	162	1	.465E+00	0.	162	1	.897E+02	.361E-02
164	1	.465E+00	0.	165	1	.897E+02	.117E-03	165	1	.465E+00	0.
167	1	.897E+02	.107E-01	168	1	.465E+00	0.	168	1	.897E+02	.703E+00
177	2	.897E+02	.903E+00	177	3	.897E+02	.196E+01	177	4	.897E+02	.120E+01
177	5	.897E+02	.150E+01	186	1	.897E+02	.713E-03	186	1	.465E+00	0.
138	1	.897E+02	.157E-01	189	1	.465E+00	0.	190	1	.897E+02	.395E-04
191	1	.465E+00	0.	192	1	.897E+02	.659E-01	193	1	.465E+00	0.
151	1	.897E+02	.717E+00	151	2	.897E+02	.905E+00	151	3	.897E+02	.160E+01
151	4	.897E+02	.160E+01	157	2	.897E+02	.133E-03	158	2	.465E+00	0.

# VALUES USED FOR: GRAPHS IN CALCULATION OF CAPTIVE AIRPLANE PREDICTIONS

CAPTIVE AIRCRAFTS PREDICTION FOR A  
300 GALLON TANK ON THE 1-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

CASE NUMBER 1  
MACH NUMBER 1.40

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
159	2	.897E+02	.280E-02	160	2	.465E+00	0.	161	2	.897E+02	-.254E-03
162	2	.465E+00	0.	163	2	.897E+02	.142E-01	164	2	.465E+00	0.
176	1	.897E+02	.698E+00	176	2	.897E+02	.932E+00	176	3	.897E+02	.110E+01
176	4	.897E+02	.160E+01	182	2	.897E+02	-.323E-03	193	2	.465E+00	0.
184	2	.897E+02	.692E-02	185	2	.465E+00	0.	186	2	.897E+02	.556E-03
187	2	.465E+00	0.	188	2	.897E+02	-.833E-01	199	2	.465E+00	0.
197	1	.897E+02	.700E+00	197	2	.897E+02	.902E+00	197	3	.897E+02	.120E+01
197	4	.897E+02	.160E+01	207	1	.897E+02	.700E+00	207	2	.897E+02	.901E+00
203	2	.897E+02	.530E-02	207	4	.897E+02	.160E+01	207	2	.897E+02	-.684E-04
212	2	.897E+02	.523E-03	210	2	.897E+02	-.326E-03	211	2	.897E+02	.520E-02
217	2	.104E+03	.120E+01	213	2	.897E+02	-.242E-01	217	1	.104E+03	.698E+00
219	1	.897E+02	.154E+00	217	3	.104E+03	.160E+01	218	1	.897E+02	-.100E-02
222	1	.897E+02	.206E-01	220	1	.210E+01	-.246E+00	221	1	.588E+00	.660E-03
227	3	.897E+02	.106E+01	227	1	.897E+02	.500E+00	227	2	.897E+02	.854E+00
231	1	.897E+02	-.342E+01	232	1	.588E+00	.161E+01	230	1	.897E+02	.764E-01
234	1	.897E+02	.238E+01	242	1	.897E+02	.993E+00	233	1	.897E+02	-.188E-01
242	3	.897E+02	.105E+01	242	4	.897E+02	.703E+00	242	2	.897E+02	.902E+00
251	1	.897E+02	.624E-04	252	1	.465E+00	.120E+01	242	5	.897E+02	.160E+01
254	1	.465E+00	0.	252	1	.897E+02	0.	253	1	.897E+02	.618E-02
257	1	.897E+02	.189E-01	255	1	.465E+00	.251E-03	256	1	.897E+02	.702E+00
264	2	.897E+02	.907E+00	259	1	.465E+00	0.	264	1	.897E+02	.120E+01
264	5	.897E+02	.160E+01	264	3	.897E+02	.105E+01	274	1	.465E+00	0.
275	1	.897E+02	-.103E+00	273	1	.897E+02	.266E-02	277	1	.897E+02	.119E-03
278	1	.465E+00	0.	276	1	.465E+00	0.	280	1	.465E+00	0.
282	4	.897E+02	.120E+01	279	1	.897E+02	.871E-01	280	3	.897E+02	.105E+01
282	2	.465E+00	.554E-03	282	2	.397E+00	.902E+00	282	2	.897E+02	-.477E-06
288	2	.465E+00	0.	282	5	.897E+02	.160E+01	284	2	.465E+00	0.
284	3	.897E+02	.105E+01	284	2	.897E+02	.460E-02	284	2	.897E+02	-.301E-01
273	2	.897E+02	.237E-02	256	2	.465E+00	0.	284	2	.897E+02	.907E+00
276	2	.465E+00	0.	264	1	.897E+02	.702E+00	284	5	.897E+02	.160E+01
279	2	.897E+02	.913E-02	274	4	.897E+02	.120E+01	284	2	.897E+02	-.103E+00
284	2	.397E+02	.901E+00	277	2	.465E+00	0.	284	2	.465E+00	0.
289	2	.897E+02	-.676E-04	280	2	.465E+00	0.	284	1	.897E+02	.701E+00
294	2	.397E+02	.903E+00	280	3	.897E+02	.120E+01	284	4	.897E+02	.701E+00
297	2	.897E+02	-.220E-02	290	2	.897E+02	-.106E-02	294	1	.897E+02	.701E+00
300	2	.897E+02	.427E-01	294	3	.897E+02	.120E+01	294	4	.897E+02	.160E+01
303	2	.160E+01	.954E-03	298	2	.897E+02	.761E-01	299	2	.897E+02	-.858E-03
307	2	.160E+01	-.405E-01	301	1	.160E+01	-.290E-02	303	1	.160E+01	-.512E-03
309	1	.160E+01	.346E-03	305	4	.160E+01	.214E+00	305	5	.160E+01	-.197E+00
310	2	.160E+01	.443E-02	307	3	.160E+01	.138E-01	305	1	.465E+00	0.
315	1	.153E+00	-.629E-03	310	1	.160E+01	-.630E-02	308	1	.160E+01	-.347E-03
317	1	.160E+01	-.813E-02	311	1	.160E+01	.813E-03	309	2	.160E+01	-.804E-02
323	1	.588E+00	.120E+01	312	2	.588E+00	-.259E-04	314	2	.588E+00	.117E-01
324	2	.160E+01	-.140E-01	318	2	.465E+00	0.	321	2	.843E+02	-.363E-03
328	4	.588E+00	.346E-03	325	3	.465E+00	.101E+01	324	1	.160E+01	-.140E-01
				326	2	.160E+01	-.774E-02	327	4	.265E+02	.149E-03
				329	4	.843E+02	-.356E-02				

# VALUES USED FROM GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREDICTIONS

CASE NUMBER 1  
MACH NUMBER 2.00

CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON THE A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
16	1	.843E+02	.699E+00	18	2	.843E+02	.105E+01	18	3	.843E+02	.120E+01
18	4	.843E+02	.160E+01	18	5	.843E+02	.200E+01	18	1	.588E+00	.100E+01
26	1	.811E+00	-.382E-04	18	1	.588E+00	.102E+01	25	1	.811E+00	.575E-01
29	1	.843E+02	.228E-04	30	1	.843E+02	-.370E-01	28	1	.843E+02	.696E+00
38	2	.843E+02	.105E+01	38	3	.843E+02	.160E+01	38	4	.843E+02	.200E+01
41	1	.843E+02	.761E-03	42	1	.406E+01	0.	43	1	.843E+02	-.220E+00
44	1	.406E+01	0.	45	1	.843E+02	.153E-03	46	1	.843E+02	.403E+00
49	1	.349E+00	0.	47	1	.200E+01	.216E-05	48	5	.465E+00	0.
50	1	.200E+01	.497E-05	51	1	.200E+01	.302E-04	52	1	.200E+01	.194E+00
53	4	.465E+00	0.	47	2	.200E+01	.338E-05	48	5	.465E+00	0.
50	2	.200E+01	.384E-05	51	2	.200E+01	.371E-04	52	2	.200E+01	0.
53	4	.465E+00	0.	55	2	.200E+01	-.368E-02	56	2	.200E+01	.264E+00
57	4	.843E+02	.626E+00	58	4	.843E+02	-.501E+00	62	1	.843E+02	.262E+00
62	2	.843E+02	.700E+00	62	3	.843E+02	.105E+01	62	4	.843E+02	.500E+00
62	5	.843E+02	.200E+01	67	1	.843E+02	.553E-02	68	1	.843E+02	.160E+01
69	1	.843E+02	.473E-02	70	1	.843E+02	-.661E+00	76	1	.843E+02	-.497E+00
76	2	.843E+02	.120E+01	76	3	.843E+02	-.661E+00	76	4	.843E+02	.700E+00
79	1	.843E+02	.356E-01	80	1	.406E+01	0.	84	1	.843E+02	.200E+01
82	1	.406E+01	0.	83	1	.843E+02	.204E-01	84	1	.843E+02	-.395E+00
91	1	.843E+02	.700E+00	91	2	.843E+02	.120E+01	91	3	.843E+02	.977E-01
96	1	.843E+02	.725E-05	91	1	.465E+00	0.	91	1	.843E+02	.160E+01
99	1	.465E+00	0.	106	1	.843E+02	.638E+00	98	1	.843E+02	-.13E-01
105	3	.843E+02	.160E+01	111	1	.843E+02	-.106E-03	98	2	.843E+02	.120E+01
115	1	.843E+02	.591E-01	114	1	.465E+00	0.	112	1	.843E+02	.703E+00
90	2	.843E+02	.110E+01	90	3	.843E+02	0.	96	2	.843E+02	.413E-05
97	2	.465E+00	0.	98	2	.843E+02	-.668E-02	99	2	.465E+00	0.
105	1	.843E+02	.794E+00	105	2	.843E+02	.110E+01	105	3	.843E+02	.160E+01
111	2	.843E+02	.275E-04	112	2	.465E+00	0.	113	2	.843E+02	-.116E+00
119	2	.465E+00	0.	115	2	.200E+01	.306E-03	125	2	.843E+02	.703E+00
126	2	.843E+02	.903E+00	119	3	.843E+02	.160E+01	125	1	.843E+02	-.176E-04
134	2	.843E+02	.626E-02	127	2	.843E+02	-.229E-03	128	2	.843E+02	.314E+00
137	1	.450E+02	.800E+00	135	1	.588E+00	.335E+00	135	1	.512E-02	.138E-01
143	1	.120E+01	.712E+00	144	1	.531E+00	.398E+01	142	1	.205E+04	.117E-01
152	1	.302E+01	.101E+01	145	1	.588E+00	.109E+01	152	1	.897E+02	.703E+00
152	2	.897E+02	.902E+00	152	3	.897E+02	.105E+01	152	4	.897E+02	.120E+01
167	2	.897E+02	.160E+01	155	1	.897E+02	-.117E-03	156	1	.465E+00	0.
177	1	.897E+02	.107E-01	168	1	.465E+00	0.	177	1	.897E+02	.702E+00
177	2	.897E+02	.902E+00	177	3	.897E+02	.106E+01	177	4	.897E+02	.120E+01
192	5	.897E+02	.160E+01	190	1	.897E+02	-.395E-04	191	1	.465E+00	0.
192	1	.897E+02	-.659E-01	193	1	.465E+00	0.	191	1	.897E+02	.717E+00
191	2	.897E+02	.905E+00	151	3	.897E+02	.106E+01	151	4	.897E+02	.160E+01
161	2	.897E+02	-.254E-03	162	2	.465E+00	0.	163	2	.897E+02	.142E-01
164	3	.465E+00	0.	176	1	.897E+02	.638E+00	176	2	.897E+02	.902E+00
176	3	.897E+02	.110E+01	176	2	.897E+02	.150E+01	195	2	.897E+02	.556E-03
187	2	.897E+02	0.	186	1	.897E+02	-.888E-01	199	2	.465E+00	0.
197	1	.897E+02	.700E+00	197	2	.897E+02	-.888E-01	199	3	.897E+02	.123E+01
197	4	.897E+02	.160E+01	207	1	.897E+02	.700E+00	207	2	.897E+02	.902E+00
207	5	.897E+02	.120E+01	207	4	.897E+02	.160E+01	207	2	.897E+02	-.684E-04



CASE NUMBER 1  
MACH NUMBER 2.00

VALUES USED FOR GRAPHS IN CALCULATION OF CAPTIVE AIRLOADS PREDICTIONS  
CAPTIVE AIRLOADS PREDICTION FOR A  
300 GALLON TANK ON T-12 A-7 OUTBOARD  
PYLON WITH A 300 GALLON TANK ON THE  
CENTER PYLON FOR INTERFERENCE

FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE	FIGURE NUMBER	LINE NUMBER	X VALUE	Y VALUE
203	2	.897E+02	.530E-02	212	2	.397E+02	.523E-03	213	2	.897E+02	-.282E-01
217	1	.104E+03	.699E+00	217	2	.104E+03	.120E+01	217	3	.104E+03	.160E+01
217	2	.104E+03	.231E+01	221	1	.588E+00	.660E-03	222	1	.897E+02	.206E-01
223	1	.588E+00	.473E-03	224	1	.897E+02	.210E-01	227	1	.897E+02	.500E+00
227	2	.897E+02	.854E+00	227	3	.897E+02	.108E+01	227	4	.897E+02	.161E+01
227	5	.897E+02	.200E+01	233	1	.897E+02	-.180E-01	234	1	.897E+02	.238E+01
235	1	.897E+02	-.184E-01	236	1	.897E+02	.355E+01	242	1	.897E+02	.703E+00
242	2	.897E+02	.902E+00	242	3	.897E+02	.135E+01	242	4	.897E+02	.120E+01
242	5	.897E+02	.160E+01	255	1	.897E+02	.251E-03	256	1	.465E+00	0.
257	1	.897E+02	-.189E-01	258	1	.465E+00	0.	264	1	.897E+02	.702E+00
264	2	.897E+02	.907E+00	264	3	.897E+02	.105E+01	264	4	.897E+02	.120E+01
264	5	.897E+02	.160E+01	277	1	.897E+02	.111E-03	278	1	.465E+00	0.
279	1	.897E+02	.871E-01	280	1	.465E+00	0.	282	1	.897E+02	.703E+00
282	2	.897E+02	.902E+00	282	3	.897E+02	.105E+01	282	4	.897E+02	.120E+01
282	5	.897E+02	.160E+01	285	1	.465E+00	.554E-13	286	1	.897E+02	.702E+00
287	2	.897E+02	-.301E-01	287	2	.897E+02	0.	287	4	.897E+02	.120E+01
287	5	.897E+02	.907E+00	287	3	.897E+02	.105E+01	288	1	.465E+00	0.
287	2	.897E+02	.160E+01	288	2	.465E+00	.196E-02	288	1	.897E+02	.701E+00
289	2	.897E+02	.901E+00	288	3	.897E+02	.120E+01	288	4	.897E+02	.160E+01
289	2	.897E+02	-.676E-04	290	2	.897E+02	-.108E-02	294	1	.897E+02	.701E+00
294	2	.897E+02	.903E+00	294	3	.897E+02	.120E+01	294	4	.897E+02	.160E+01
299	2	.897E+02	-.858E-03	300	2	.897E+02	.427E-01	301	1	.200E+01	-.172E-02
303	1	.200E+01	.119E-03	303	2	.200E+01	.992E-03	305	4	.200E+01	.181E+00
305	5	.200E+01	.158E+00	307	2	.200E+01	-.405E-01	307	3	.200E+01	-.183E-01
308	1	.465E+00	0.	309	1	.200E+01	.117E-03	310	1	.200E+01	-.564E-02
309	2	.200E+01	-.418E-03	310	2	.200E+01	.417E-02	311	1	.200E+01	.143E-02
313	1	.200E+01	.127E-01	315	1	.153E+00	-.629E-03	318	2	.465E+00	0.
314	2	.588E+00	-.117E-01	317	1	.200E+01	-.675E-02	318	2	.465E+00	0.
322	1	.843E+02	-.377E-01	323	1	.588E+00	.120E+01	325	3	.465E+00	.101E+01
324	1	.200E+01	-.102E-01	324	2	.200E+01	-.114E-01	326	2	.200E+01	-.694E-02
327	4	.265E+02	.149E-03	328	4	.588E+00	.346E-13	329	4	.843E+02	-.356E-02

TEST06E //// END OF LIST ////  
TEST06E //// END OF LIST ////

\*\*\*\*\*  
\*\*\*\*\*

ROUTINE LISTING

39/20/76 17.02.53

FTN 4.5-13

BLOCK DATA BLK000 74/74 CPT=1

```

1      BLOCK DATA BLK000
2      *****
3      THIS BLOCK DATA ROUTINE STORES VALUES INTO THE PROGRAM
4      AREA. WILL NOT CHANGE DURING EXECUTION.
5      *****
6      NOPTS(*) = THE INITIALS OF THE ROUTINES TO BE SELECTED
7      FOR CALCULATION OR OUTPUT
8      *****
9      ITYPE(*) = THE TYPES OF INPUT CARDS
10     *****
11     NTYPES(*) = THE TYPE OF BODY SEGMENT USED ON AREA CARDS
12     *****
13     ICNFGS(*) = THE TYPE OF STORE CONFIGURATION USED IN
14     THE ROLLING MOMENT ROUTINE.
15     *****
16     1 = SYMMETRIC CURVE
17     2 = NON SYMMETRIC CURVE
18     3 = FINS AT 90 DEGREES
19     4 = FINS AT 45 DEGREES
20     5 = NOT USED
21     *****
22     REALM(1) = THE FIRST MACH NUMBER RUN IS ALWAYS 0.5
23     ISTAR(1) = ARRAY CONTAINING THE OUT-OF-RANGE INDICATORS
24     *****
25     SUBSCRIPT 1 = CALCULATION NUMBER
26     SUBSCRIPT 2 = MACH NUMBER
27     *****
28     COMMON/COMSTR/ ISTAR(46,7), IOSTAR
29     COMMON/COMINH/ ITYPE(14), NTYPES( 4), NOPTS(7), ICNFGS(5)
30     COMMON/COMINF/ AKRM, AKINF, AKN, AKNB, AKTB, AKWB, AKWBI,
31     ALWJA, ALEFIN(5), ALINF1, ALINF2, ALINF3, ALINF4, ALINF5, ALINF6,
32     CLAI50, CLAI50, CLOCAL, DIMFI, DIMFI, DIMFI, DIMFI, DIMFI,
33     ICASE, ICNFGS, IMAGE( 3), ISYM, ITITLE(36),
34     YSEG(40,2), NSTYPE(40,2), FXCML, REALM(8), SFGL,
35     SML, SPAT(40,2), STORED, STOREL, SUNPA, TAILPA,
36     WINGPA, WSS, XCG, XINTFI, XINTFO, YJIG, YBL,
37     YINTFI, YINTFO, Y1, Y1PRM, ZPH, ZPLNSP
38     *****
39     DATA NOPTS/2HSF, 2HNF, 2HPH, 2HY4, 2HAF, 2HRM, 2HIP /
40     DATA ITYPE /8HTITLE
41     DATA 8HPPA
42     DATA 8HSTORE1
43     DATA 8HSTORE2
44     DATA 8HSTORE3
45     DATA 8HSTORE4
46     DATA 8HAFQ
47     DATA 8HA/C1
48     DATA 8HA/C2
49     DATA 8HOPTION
50     DATA 8HEND CASE
51     DATA 8H
52     DATA NTYPES /1H1, 1H3, 1H4, 1H1, 1H1 /
53     DATA ICNFGS /1H1, 1H1, 1H1, 1H2, 1H1 /
54     DATA ISTAR/32 * 14 /
55     DATA REALM(1) / 0.5 /
56     DATA ITITLE /36 * 34 /
57     END

```





09/20/76 17.02.53

FTN 4.5+410

PROGRAM STORES 74/74 OPT=1

100 CONTINUE  
STOP  
END

60

DIAGNOSIS OF PROBLEMS  
CAPJ NR. SEVERITY DETAILS CONTROL VARIABLE IN COMMON OR EQUIVALENCES, OPTIMIZATION MAY BE INHIBITED.

36 1

SUPERJULINE CHECKER 4/7/76 17.02.53

```

1      SUBROUTINE CHECKP
2      .....
3      * THIS ROUTINE ASSIGNS AN INPUT CODE TO EACH CARD IN THE
4      * INPUT STREAM. THE ASSIGNED VALUES ARE BATTERED INTO
5      * GROUPS ACCORDING TO CASE NUMBER AS WELL AS CARD NUMBER.
6      * IF THIS ROUTINE SEVERAL DATA FIELDS ARE CHECKED TO
7      * DETERMINE IF DATA HAS BEEN ENTERED.
8      * CASES(1,*) = ARRAY CONTAINING THE INPUT CODES FOR EACH
9      * CARD INPUT (1 TYPE 1-14)
10     * SUBSCRIPT 1 = CASE NUMBER
11     * SUBSCRIPT 2 = INPUT CODE AS DEFINED
12     * IN BLKRED
13     .....
15     COMMON/COMMONA/ ITYPE(14), IYPES( 4), NUFINS(7), ICHFS(5)
16     COMMON/COMMONC/ DUM1, ITHACH, KRTYPE(14), NCASE, NCASES(5,94), NUMCAS,
17     * NUMCRD(5), NYACH
18     COMMON/FILES/DATIN, GRAPHS, IERROR, IERSUM, OUTPT, REMOVE, TAPEIN
19     * INTEGER DATAC, DATIN, GRAPHS, OUTPT, REMOVE, TAPEIN
20     COMMON/COMMONP/ AKBH, AKINTF, AKN, AKNB, AKTB, AKWB, AKWBI,
21     * ALAMDA, ALEFIN(5), ALINFI, ALINFO, ALINT(5), ANUSSEL,
22     * CDOISO, CLAISO, CLOCAL, OINTFI, DINTFO, HMUHF,
23     * ICASE, ICONF, IMAGE( 9), ISYM, ITITLE(36),
24     * NSFG(4,2), NSTYPE(4,2), PXCCML, PEALM(8), SEGL,
25     * SML, SPAT(4,2), STORED, STOREL, SUMPA, TAILPA,
26     * XINGPA, XSG, XINTFI, XINTFC, YBIG, YBL,
27     * YINTFI, YINTFO, Y1, Y1PRM, ZPH, ZPLNSP
28     .....
29     COMMON/COMMONP/ IERO
30     NCARD = 0
31     NCASE = 1
32     100 READ(DATIN,1) IMAGE
33     1 FORMAT(A1,A2,7A10)
34     IF (EOF(DATIN).NE.0) GO TO 1000
35     IF (IMAGE(1).EQ.8) NCASE=1000
36     IF (NCASE.EQ.6) CALL EPOOF(17)
37     NCARD = NCARD + 1
38     NUMCRD(NCASE) = NCARD
39     DO 200 I=1,14
40     IF (IMAGE(1).EQ.ITYPE(I)) GO TO 300
41     200 CONTINUE
42     NUMCAS = 1
43     CALL EPOOF(11)
44     300 CONTINUE
45     C **** TEST IF THE ANGLE OF THE LEADING EDGE OF THE FILM IS UNDEFINED
46     C **** IF (I.EQ.5.AND. IMAGE(5).EQ.10H ) ALEFIN(NCASE)=1234321.
47     C ****
48     C **** TEST IF THE LENGTH OF THE INLET IS DEFINED
49     C **** IF (I.EQ.11.AND. IMAGE(5).EQ.10H ) ALINFI(NCASE)=1234321.
50     C ****
51     C ****
52     C ****
53     C ****
54     C ****
55     C ****
56     C ****
57     C ****
58     C ****
59     C ****
60     C ****
61     C ****
62     C ****
63     C ****
64     C ****
65     C ****
66     C ****
67     C ****
68     C ****
69     C ****
70     C ****
71     C ****
72     C ****
73     C ****
74     C ****
75     C ****
76     C ****
77     C ****
78     C ****
79     C ****
80     C ****
81     C ****
82     C ****
83     C ****
84     C ****
85     C ****
86     C ****
87     C ****
88     C ****
89     C ****
90     C ****
91     C ****
92     C ****
93     C ****
94     C ****
95     C ****
96     C ****
97     C ****
98     C ****
99     C ****
100    C ****
101    C ****
102    C ****
103    C ****
104    C ****
105    C ****
106    C ****
107    C ****
108    C ****
109    C ****
110    C ****
111    C ****
112    C ****
113    C ****
114    C ****
115    C ****
116    C ****
117    C ****
118    C ****
119    C ****
120    C ****
121    C ****
122    C ****
123    C ****
124    C ****
125    C ****
126    C ****
127    C ****
128    C ****
129    C ****
130    C ****
131    C ****
132    C ****
133    C ****
134    C ****
135    C ****
136    C ****
137    C ****
138    C ****
139    C ****
140    C ****
141    C ****
142    C ****
143    C ****
144    C ****
145    C ****
146    C ****
147    C ****
148    C ****
149    C ****
150    C ****
151    C ****
152    C ****
153    C ****
154    C ****
155    C ****
156    C ****
157    C ****
158    C ****
159    C ****
160    C ****
161    C ****
162    C ****
163    C ****
164    C ****
165    C ****
166    C ****
167    C ****
168    C ****
169    C ****
170    C ****
171    C ****
172    C ****
173    C ****
174    C ****
175    C ****
176    C ****
177    C ****
178    C ****
179    C ****
180    C ****
181    C ****
182    C ****
183    C ****
184    C ****
185    C ****
186    C ****
187    C ****
188    C ****
189    C ****
190    C ****
191    C ****
192    C ****
193    C ****
194    C ****
195    C ****
196    C ****
197    C ****
198    C ****
199    C ****
200    C ****
201    C ****
202    C ****
203    C ****
204    C ****
205    C ****
206    C ****
207    C ****
208    C ****
209    C ****
210    C ****
211    C ****
212    C ****
213    C ****
214    C ****
215    C ****
216    C ****
217    C ****
218    C ****
219    C ****
220    C ****
221    C ****
222    C ****
223    C ****
224    C ****
225    C ****
226    C ****
227    C ****
228    C ****
229    C ****
230    C ****
231    C ****
232    C ****
233    C ****
234    C ****
235    C ****
236    C ****
237    C ****
238    C ****
239    C ****
240    C ****
241    C ****
242    C ****
243    C ****
244    C ****
245    C ****
246    C ****
247    C ****
248    C ****
249    C ****
250    C ****
251    C ****
252    C ****
253    C ****
254    C ****
255    C ****
256    C ****
257    C ****
258    C ****
259    C ****
260    C ****
261    C ****
262    C ****
263    C ****
264    C ****
265    C ****
266    C ****
267    C ****
268    C ****
269    C ****
270    C ****
271    C ****
272    C ****
273    C ****
274    C ****
275    C ****
276    C ****
277    C ****
278    C ****
279    C ****
280    C ****
281    C ****
282    C ****
283    C ****
284    C ****
285    C ****
286    C ****
287    C ****
288    C ****
289    C ****
290    C ****
291    C ****
292    C ****
293    C ****
294    C ****
295    C ****
296    C ****
297    C ****
298    C ****
299    C ****
300    C ****
301    C ****
302    C ****
303    C ****
304    C ****
305    C ****
306    C ****
307    C ****
308    C ****
309    C ****
310    C ****
311    C ****
312    C ****
313    C ****
314    C ****
315    C ****
316    C ****
317    C ****
318    C ****
319    C ****
320    C ****
321    C ****
322    C ****
323    C ****
324    C ****
325    C ****
326    C ****
327    C ****
328    C ****
329    C ****
330    C ****
331    C ****
332    C ****
333    C ****
334    C ****
335    C ****
336    C ****
337    C ****
338    C ****
339    C ****
340    C ****
341    C ****
342    C ****
343    C ****
344    C ****
345    C ****
346    C ****
347    C ****
348    C ****
349    C ****
350    C ****
351    C ****
352    C ****
353    C ****
354    C ****
355    C ****
356    C ****
357    C ****
358    C ****
359    C ****
360    C ****
361    C ****
362    C ****
363    C ****
364    C ****
365    C ****
366    C ****
367    C ****
368    C ****
369    C ****
370    C ****
371    C ****
372    C ****
373    C ****
374    C ****
375    C ****
376    C ****
377    C ****
378    C ****
379    C ****
380    C ****
381    C ****
382    C ****
383    C ****
384    C ****
385    C ****
386    C ****
387    C ****
388    C ****
389    C ****
390    C ****
391    C ****
392    C ****
393    C ****
394    C ****
395    C ****
396    C ****
397    C ****
398    C ****
399    C ****
400    C ****
401    C ****
402    C ****
403    C ****
404    C ****
405    C ****
406    C ****
407    C ****
408    C ****
409    C ****
410    C ****
411    C ****
412    C ****
413    C ****
414    C ****
415    C ****
416    C ****
417    C ****
418    C ****
419    C ****
420    C ****
421    C ****
422    C ****
423    C ****
424    C ****
425    C ****
426    C ****
427    C ****
428    C ****
429    C ****
430    C ****
431    C ****
432    C ****
433    C ****
434    C ****
435    C ****
436    C ****
437    C ****
438    C ****
439    C ****
440    C ****
441    C ****
442    C ****
443    C ****
444    C ****
445    C ****
446    C ****
447    C ****
448    C ****
449    C ****
450    C ****
451    C ****
452    C ****
453    C ****
454    C ****
455    C ****
456    C ****
457    C ****
458    C ****
459    C ****
460    C ****
461    C ****
462    C ****
463    C ****
464    C ****
465    C ****
466    C ****
467    C ****
468    C ****
469    C ****
470    C ****
471    C ****
472    C ****
473    C ****
474    C ****
475    C ****
476    C ****
477    C ****
478    C ****
479    C ****
480    C ****
481    C ****
482    C ****
483    C ****
484    C ****
485    C ****
486    C ****
487    C ****
488    C ****
489    C ****
490    C ****
491    C ****
492    C ****
493    C ****
494    C ****
495    C ****
496    C ****
497    C ****
498    C ****
499    C ****
500    C ****
501    C ****
502    C ****
503    C ****
504    C ****
505    C ****
506    C ****
507    C ****
508    C ****
509    C ****
510    C ****
511    C ****
512    C ****
513    C ****
514    C ****
515    C ****
516    C ****
517    C ****
518    C ****
519    C ****
520    C ****
521    C ****
522    C ****
523    C ****
524    C ****
525    C ****
526    C ****
527    C ****
528    C ****
529    C ****
530    C ****
531    C ****
532    C ****
533    C ****
534    C ****
535    C ****
536    C ****
537    C ****
538    C ****
539    C ****
540    C ****
541    C ****
542    C ****
543    C ****
544    C ****
545    C ****
546    C ****
547    C ****
548    C ****
549    C ****
550    C ****
551    C ****
552    C ****
553    C ****
554    C ****
555    C ****
556    C ****
557    C ****
558    C ****
559    C ****
560    C ****
561    C ****
562    C ****
563    C ****
564    C ****
565    C ****
566    C ****
567    C ****
568    C ****
569    C ****
570    C ****
571    C ****
572    C ****
573    C ****
574    C ****
575    C ****
576    C ****
577    C ****
578    C ****
579    C ****
580    C ****
581    C ****
582    C ****
583    C ****
584    C ****
585    C ****
586    C ****
587    C ****
588    C ****
589    C ****
590    C ****
591    C ****
592    C ****
593    C ****
594    C ****
595    C ****
596    C ****
597    C ****
598    C ****
599    C ****
600    C ****
601    C ****
602    C ****
603    C ****
604    C ****
605    C ****
606    C ****
607    C ****
608    C ****
609    C ****
610    C ****
611    C ****
612    C ****
613    C ****
614    C ****
615    C ****
616    C ****
617    C ****
618    C ****
619    C ****
620    C ****
621    C ****
622    C ****
623    C ****
624    C ****
625    C ****
626    C ****
627    C ****
628    C ****
629    C ****
630    C ****
631    C ****
632    C ****
633    C ****
634    C ****
635    C ****
636    C ****
637    C ****
638    C ****
639    C ****
640    C ****
641    C ****
642    C ****
643    C ****
644    C ****
645    C ****
646    C ****
647    C ****
648    C ****
649    C ****
650    C ****
651    C ****
652    C ****
653    C ****
654    C ****
655    C ****
656    C ****
657    C ****
658    C ****
659    C ****
660    C ****
661    C ****
662    C ****
663    C ****
664    C ****
665    C ****
666    C ****
667    C ****
668    C ****
669    C ****
670    C ****
671    C ****
672    C ****
673    C ****
674    C ****
675    C ****
676    C ****
677    C ****
678    C ****
679    C ****
680    C ****
681    C ****
682    C ****
683    C ****
684    C ****
685    C ****
686    C ****
687    C ****
688    C ****
689    C ****
690    C ****
691    C ****
692    C ****
693    C ****
694    C ****
695    C ****
696    C ****
697    C ****
698    C ****
699    C ****
700    C ****
701    C ****
702    C ****
703    C ****
704    C ****
705    C ****
706    C ****
707    C ****
708    C ****
709    C ****
710    C ****
711    C ****
712    C ****
713    C ****
714    C ****
715    C ****
716    C ****
717    C ****
718    C ****
719    C ****
720    C ****
721    C ****
722    C ****
723    C ****
724    C ****
725    C ****
726    C ****
727    C ****
728    C ****
729    C ****
730    C ****
731    C ****
732    C ****
733    C ****
734    C ****
735    C ****
736    C ****
737    C ****
738    C ****
739    C ****
740    C ****
741    C ****
742    C ****
743    C ****
744    C ****
745    C ****
746    C ****
747    C ****
748    C ****
749    C ****
750    C ****
751    C ****
752    C ****
753    C ****
754    C ****
755    C ****
756    C ****
757    C ****
758    C ****
759    C ****
760    C ****
761    C ****
762    C ****
763    C ****
764    C ****
765    C ****
766    C ****
767    C ****
768    C ****
769    C ****
770    C ****
771    C ****
772    C ****
773    C ****
774    C ****
775    C ****
776    C ****
777    C ****
778    C ****
779    C ****
780    C ****
781    C ****
782    C ****
783    C ****
784    C ****
785    C ****
786    C ****
787    C ****
788    C ****
789    C ****
790    C ****
791    C ****
792    C ****
793    C ****
794    C ****
795    C ****
796    C ****
797    C ****
798    C ****
799    C ****
800    C ****
801    C ****
802    C ****
803    C ****
804    C ****
805    C ****
806    C ****
807    C ****
808    C ****
809    C ****
810    C ****
811    C ****
812    C ****
813    C ****
814    C ****
815    C ****
816    C ****
817    C ****
818    C ****
819    C ****
820    C ****
821    C ****
822    C ****
823    C ****
824    C ****
825    C ****
826    C ****
827    C ****
828    C ****
829    C ****
830    C ****
831    C ****
832    C ****
833    C ****
834    C ****
835    C ****
836    C ****
837    C ****
838    C ****
839    C ****
840    C ****
841    C ****
842    C ****
843    C ****
844    C ****
845    C ****
846    C ****
847    C ****
848    C ****
849    C ****
850    C ****
851    C ****
852    C ****
853    C ****
854    C ****
855    C ****
856    C ****
857    C ****
858    C ****
859    C ****
860    C ****
861    C ****
862    C ****
863    C ****
864    C ****
865    C ****
866    C ****
867    C ****
868    C ****
869    C ****
870    C ****
871    C ****
872    C ****
873    C ****
874    C ****
875    C ****
876    C ****
877    C ****
878    C ****
879    C ****
880    C ****
881    C ****
882    C ****
883    C ****
884    C ****
885    C ****
886    C ****
887    C ****
888    C ****
889    C ****
890    C ****
891    C ****
892    C ****
893    C ****
894    C ****
895    C ****
896    C ****
897    C ****
898    C ****
899    C ****
900    C ****
901    C ****
902    C ****
903    C ****
904    C ****
905    C ****
906    C ****
907    C ****
908    C ****
909    C ****
910    C ****
911    C ****
912    C ****
913    C ****
914    C ****
915    C ****
916    C ****
917    C ****
918    C ****
919    C ****
920    C ****
921    C ****
922    C ****
923    C ****
924    C ****
925    C ****
926    C ****
927    C ****
928    C ****
929    C ****
930    C ****
931    C ****
932    C ****
933    C ****
934    C ****
935    C ****
936    C ****
937    C ****
938    C ****
939    C ****
940    C ****
941    C ****
942    C ****
943    C ****
944    C ****
945    C ****
946    C ****
947    C ****
948    C ****
949    C ****
950    C ****
951    C ****
952    C ****
953    C ****
954    C ****
955    C ****
956    C ****
957    C ****
958    C ****
959    C ****
960    C ****
961    C ****
962    C ****
963    C ****
964    C ****
965    C ****
966    C ****
967    C ****
968    C ****
969    C ****
970    C ****
971    C ****
972    C ****
973    C ****
974    C ****
975    C ****
976    C ****
977    C ****
978    C ****
979    C ****
980    C ****
981    C ****
982    C ****
983    C ****
984    C ****
985    C ****
986    C ****
987    C ****
988    C ****
989    C ****
990    C ****
991    C ****
992    C ****
993    C ****
994    C ****
995    C ****
996    C ****
997    C ****
998    C ****
999    C ****
1000   C ****

```

09/20/76 17.02.53

FIN 4.5+410

SUBROUTINE CHECKP 74/74 OPT=1

```

10 CONTINUE
C **** END OF CASE FOUND
  NCASE = NCASE + 1
  NCARD = 0
  GO TO 100
1000 IF (NCARD.EQ.0) NCASF = NCASE - 1
      IF (NCASE.EQ.0) CALL ERPOF(16)
      KEHIND TAPFIN
      IF (IERR.EQ.0) GO TO 1001
      CALL POINTP(4)
      STOP
1001 RETURN
      END
  
```

50

65

70



```

1  SUBROUTINE READIN
2
3  * THIS ROUTINE READS INPUT INTO EACH CASE.
4  * STORED = STORE DIAMETER
5  * STOREL = STORE LENGTH
6  * INPUTS REQUIRED FOR ICASE = 1
7  * AKN = KN FROM AFATL TP-75-87
8  * AK3W = <3(W) FROM AFATL TP-75-87
9  * AK3E = <3(E) FROM AFATL TP-75-87
10 * INPUTS REQUIRED FOR ICASE 2
11 * AKN8 = <N/3 FROM AFATL TP-75-87
12 * AK13 = <1/3 FROM AFATL TP-75-87
13 * AKWHI = <W/3 FROM AFATL TP-75-87
14 * AKINTF = <INTF FROM AFATL TP-75-87
15 * INPUTS REQUIRED FOR ICASE 3
16 * *** ONLY ICASE = 3 ***
17 * ICONFG = CONFIGURATION STORE IS IN (+) = WING VERT.
18 * (X) = WING 45 DEG.
19 * (1) = SYMMETRIC PM
20 * (2) = NO SYMMETRY
21 * ( ) = NOT USED
22
23 * ALANDA = AIRCRAFT WING SWEEP ANGLE
24 * ALFIN = STORE FIN SWEEP ANGLE
25 * ALINTL (+) = MINIMUM DISTANCE FROM STORE TO INLET
26 * ANOSEL = LENGTH OF NOSE
27 * ALINFI = LENGTH OF INBOARD INTERFERING STORE
28 * ALINFO = LENGTH OF OUTBOARD INTERFERING STORE
29 * CJOI30 = ISOLATED STORE DRAG COEFFICIENT
30 * CLAISO = ISOLATED STORE LIFT CURVE SLOPE
31 * CLUCAL = LOCAL CHORD LENGTH
32 * DINIFI = DIAMETER OF INBOARD INTERFERING STORE
33 * DINIFO = DIAMETER OF OUTBOARD INTERFERING STORE
34 * INPORA (+) = INPUT OPTION DEFINED IN BLKRD WHICH
35 * TURNS ON BOTH CALCULATION AND PRINT GRAM
36 * DUMP FOR THE CHOSEN COMPONENT
37 * INPTOP (+) = INPUT OPTION DEFINED IN BLKRD WHICH WILL
38 * TURN ON THE CALCULATION FOR THE CHOSEN
39 * COMPONENT
40 * ISYM = OPTION TO CHOOSE PLAN PROJECTED AREA EQUAL
41 * TO SIDE PROJECTED AREA (SPA=PPA)
42 *
43 * <ROYTP (+) = ARRAY CONTAINING THE NUMBER OF CARDS FOR
44 * EACH INPUT CODE AS REFERENCED BY ITYPE 1-14
45 * NSEG (+,*) = SEGMENT NUMBER OF SECTION
46 * 1) SUBSCRIPT 1 = SEGMENT NUMBER
47 * 2) SUBSCRIPT 2
48 * A) 1 = SIDE PROJECTED AREA
49 * B) 2 = PLAN PROJECTED AREA
50 * SPAT (+,*) = SECTIONAL AREAS (SQ.IN.)
51 * SUBSRIPT 1 = NUMBER OF SEGMENT
52 * SUBSCRIPT 2 = A) SPA B) PPA
53 * SEGL = SEGMENT CONSTANT LENGTH AS MEASURED ALONG
54 * THE LONGITUDINAL POSITIVE AXIS.
55 * SML = MID LUG POSITION OF STORE
56 * NSTYPE (+,*) = SEGMENT TYPE
57 * 1) SUBSCRIPT 1 = N=NOSE,B=BODY,W=WING,

```



39/20/75 17.02.53

FIV 7.5+1.1

SLOWDOWN READING 74/74 C=1.1

```

115 DO 1000 MCARD=1,INJ)
      INPTYP = NCASES(MCARD,ICARD)
      KOTYP(INPTYP) = KOTYP(INPTYP) + 1
      I = KOTYP(INPTYP)
      IF(INPTYP.LE.3.OR.I.LE.100.INPTYP.GE.100)GO TO 5
      IOKO = IOKP
      IERR = INPTYP
      CALL ERROR(15)
      IERR = IOKO
      5 CONTINUE
      GO TO(10,20,30,40,50,60,70,75,80,90,95,100,500,500),INPTYP
120 10 CONTINUE
      IF(I.GT.4)CALL ERROR(3)
      IF(I.GT.4)GO TO 500
      ISTR = (I-1) * 9 + 1
      ISTOP = I * 9
      READ(TAPEIN,1000)(ITITLE(J),J=ISTR,ISTOP)
130 1010 FORMAT(9X,9A8)
      GO TO 1000
      C ****
135 C ***** DEAD IN STORE AREA (EITHER SIDE PROJECTILE OR PLAN PROJECTILE)
      C *****
      20 INAREA = INPTYP - 1
      IF(I.GT.40)CALL ERROR(7)
      READ(TAPEIN,1000)NSEG(1,INAREA),NSTYPE(1,INAREA),SEAT(1,INAREA)
140 1020 FORMAT(4X,15,41,510.4)
      IF(1PAT(1,INAREA).EQ.0) IERR = INPTYP
      IF(1PAT(1,INAREA).EQ.0)CALL ERROR(21)
      DO 23 IPOSTN = 1,4
      IF(NSTYPE(1,INAREA).NE.NTYPES(IPOSTN))GO TO 23
      NSTYPE(1,INAREA) = IPOSTN
      IF(NSEG(1,INAREA).EQ.0)CALL ERROR(5)
      GO TO 1000
145 23 CONTINUE
      IERR = INPTYP
      CALL ERROR(4)
      GO TO 1000
      25 IERR = INPTYP
      CALL ERROR(7)
      GO TO 1000
150 C ***** STOPPED TYPE CARD
      40 READ(TAPEIN,1000) ICASE,AKN,AKSW,AKWB,AKNB,AKTB,AKWBI,
      AKINTF
155 1040 FORMAT(4X,12,7F10.4)
      IF(ICASE.LT.1.OR.ICASE.GT.3)CALL ERROR(8)
      C ***** STORE WITH WING AT AFT END OF BODY
      IF(ICASE.NE.1)GO TO 41
      IF(AKNB+AKTB+AKWBI+AKINTF).NE.0.0)CALL ERROR(9)
      IF(AKNB.EQ.0.0.OR.AKTB.EQ.0.0.OR.AKWBI.EQ.0.0.OR.AKINTF.EQ.0.0)
      *CALL ERROR(22)
      GO TO 47
160 41 CONTINUE
      C ***** STORE WITH WING ON FORWARD BODY AND TAIL ON AFT END
      IF(ICASE.NE.2)GO TO 42
      IF(AKNB+AKWB+AKTB).NE.0.0)CALL ERROR(9)
      IF(AKNB.EQ.0.0.OR.AKTB.EQ.0.0.OR.AKWBI.EQ.0.0.OR.AKINTF.EQ.0.0)
      *CALL ERROR(23)
      GO TO 47
165 42 CONTINUE
      C ***** STORE WITH WING ON FORWARD BODY AND TAIL ON AFT END
      IF(ICASE.NE.3)GO TO 43
      IF(AKNB+AKWB+AKTB).NE.0.0)CALL ERROR(9)
      IF(AKNB.EQ.0.0.OR.AKTB.EQ.0.0.OR.AKWBI.EQ.0.0.OR.AKINTF.EQ.0.0)
      *CALL ERROR(23)
      GO TO 47
170 43 CONTINUE
      C ***** STORE WITH WING ON FORWARD BODY AND TAIL ON AFT END
      IF(ICASE.NE.4)GO TO 44
      IF(AKNB+AKWB+AKTB).NE.0.0)CALL ERROR(9)
      IF(AKNB.EQ.0.0.OR.AKTB.EQ.0.0.OR.AKWBI.EQ.0.0.OR.AKINTF.EQ.0.0)
      *CALL ERROR(23)
      GO TO 47

```

```

C **** UNFINISHED STORE
42 CONTINUE
  IF ((AKN+AKSH+AKWB+AKNB+AKTB+AKMBI).NE.0.0)CALL ERPR(9)
47 CONTINUE
  GO TO 1000
C **** STORE2 TYPE CARD
50 READ(TAPEIN,1080)STOREL,STORED,ANOSL,ALFN,CLAISO,CQUISJ,XCS
  IF (ALEFIN(NUMCAS).NE.1234321.)ALEFIN(NUMCAS) = ALFN
  DO 53 ICK=NUMCAS,5
    ALEFIN(ICK) = ALEFIN(NUMCAS)
53 CONTINUE
  IF (STOREL.LE.0.0.OR.STORED.LE.0.0.OR.XCS.LE.0.0)CALL _ ERROR(18)
  ANOSL = ANOSL / 12.0
  STORED = STORED / 12.0
  CLAISO = CLAISO * 0.785398164 * STORED * STORED
  GO TO 1000
C **** STORE3 TYPE CARD
60 READ(TAPEIN,1050)ICONFG,ISYM,WINGPA,TAILE4,SUMPA
  IF ((ISYM.EQ.1H+.OR.ISYM.EQ.1HX).AND.(WINGPA+TAILPA+SUMPA).NE.0)
    * CALL ERPR(23)
1050 FORMAT(9X,A1,X4,A7,5F10.4)
  IF (ISYM.EQ.7HSP+P04.0R.ISYM.EQ.7H
    IERR = ISYM
    CALL ERPR(13)
  GO TO 64
62 DO 63 J=1,5
  IF (ICONFG.NE.ICONFGS(J))GO TO 67
  ICSY4 = J
  GO TO 64
63 CONTINUE
  IERR = ICONFG
  CALL ERPR(14)
64 CONTINUE
  GO TO 1000
C **** STORE4 TYPE CARD
70 READ(TAPEIN,1080)XINTFO,YINTFO,JINTFO,XINTFI,YINTFI,JINTFI
  DINTFO = DINTFO / 12.0
  DINTFI = DINTFI / 12.0
  GO TO 1000
C **** STORE5 TYPE CARD
75 READ(TAPEIN,1080)ALINFO,ALINFI,ZPLNSP,SMLSEGL,YLPDM
  IF (SML.EQ.0.03.SEGL.EQ.0.0)CALL ERPR(19)
  GO TO 1000
C **** AERO TYPE CARD
80 READ(TAPEIN,1080)(REALM(IMAX),IMAX=2,8)
  IMACH1 = 1
  IMACH = 1
1090 FORMAT(10X,7F10.4)
  NMACH = 1
  DO 85 I=2,9
    IF (REALM(I).LE.1.0)GO TO 85
    IF (REALM(I).LT.1.5)REALM(I)=1.2
    IF (REALM(I).EQ.0.5)IMACH1 = 3
    IF (REALM(I).EQ.0.5)GO TO 85
    NMACH = NMACH + 1
  REALM(NMACH) = REALM(I)
  GO TO 85
  03 QU=1 = REALM(I)
  CALL ERPR(10)

```

SECURITY REF ID: 74176 OPT=1

```

85 CONTINUE
90 TO 1000
C *** A/C TYPE CARD
90 READ(TAPEIN,100)CLICAL,PXCMPL,MSS,Y3IG,YBL,Y1
IF(LOCAL.CL=0.0)MSS=2U.7.0.0.Y3IG=7.0.0.0.YBL=6.0.0.0)
CALL EROR(23)
Y1 = Y1 / 12.0
GO TO 1030
C *** A/C2 TYPE CARD
95 READ(TAPEIN,100)ALAYDA,ZFH,ALZZ,HWOHF
IF(ALINLT(NUMCAS).NE.1234321.)ALINLT(NUMCAS) = ALZZ
DO 97 ICK=NUMCAS,F
ALINLT(IK) = ALINLT(NUMCAS)
97 CONTINUE
ALAYDA = ALAYDA * 0.01745329252
GO TO 1060
C *** OPTION TYPE CARD
100 READ(TAPEIN,110)IYETOP,INPGRA
110 FORMAT(10X,7(A2,1X),9X,7(A2,1X))
IFND = 0
DO 105 I=1,7
ICLSG(I) = 0
ICALOK(I) = 0
105 CONTINUE
DO 120 J=1,7
DO 110 J=1,7
IF(J.NE.TOP(I).NE.NOPTS(J))GO TO 108
ICALSG(J) = 1
108 IF(INPGRA(I).NE.NOPTS(J))GO TO 110
ICALSG(J) = 1
ICALGP(J) = 1
IFND = 1
GO TO 120
110 CONTINUE
120 CONTINUE
GO TO 000
500 READ(TAPEIN,1100)
1000 CONTINUE
JOUTPT = 0
DO 505 JFIND=1,7
IF(ICLSG(JFIND).NE.0)JOUTPT = 1
505 CONTINUE
IF(JOUTPT.EQ.0)CALL ERROR(10)
DO 507 J=1,12
IF(J.EQ.1.OR.J.EQ.3.OR.J.EQ.7.OR.KRDTYP(J).NE.0)GO TO 507
IERR = J
CALL ERROR(24)
507 CONTINUE
IF(ICLSG(15).NE.0.AND.CEOISO.EQ.0)CALL ERROR(25)
DO 508 J=1,4
IF(ICLSG(J).EQ.0.OR.CLAISO.NE.0.0.OR.KRDTYP(12).EQ.0.OR.
* KRDTYP(5).EQ.0)GO TO 508
IERR = J
CALL ERROR(26)
508 CONTINUE
IF(ICONFG.EQ.7H
* AND.KRDTYP(3).EQ.0)CALL ERROR(27)
IF(KRDTYP(1).EQ.0.AND.NUMCAS.EQ.1)CALL ERFOR(1)

```

09/20/76 17.02.53

FTN 4.54410

SUBROUTINE READIN 74/74 OPT=1

```

290      IF(KRDTYP(1).GT.0.AND.KFDTYP(1).LT.4)CALL ERROR(2)
      IF(JERPEQ.0) GO TO 510
      CALL PRINTR(4)
      STOP
      510 CONTINUE
      C ****
      C **** SORT SPA AND PPA CARDS (IF ANY) INTO ASCENDING ORDER
      C ****
      DO 600 INDXSP = 1,2
      INDX1 = KRDTYP(INDXSP+1)
      IF(INDX1.EQ.0)GO TO 600
      INDX2 = INDX1 - 1
      DO 500 I=1,INDX2
      IP1 = I + 1
      DO 560 J=IP1,INDX1
      IF(NSEG(I,INDXSP) - NSEG(J,INDXSP))560,540,550
      540 IF(NSTYPE(I,INDXSP) - NSTYPE(J,INDXSP))560,540,550
      550 ITEMP1 = NSEG(I,INDXSP)
      ITEMP2 = NSTYPE(I,INDXSP)
      TEMP1 = SPAT(I,INDXSP)
      NSEG(I,INDXSP) = NSEG(J,INDXSP)
      NSTYPE(I,INDXSP) = NSTYPE(J,INDXSP)
      SPAT(I,INDXSP) = SPAT(J,INDXSP)
      NSEG(J,INDXSP) = ITEMP1
      NSTYPE(J,INDXSP) = ITEMP2
      SPAT(J,INDXSP) = TEMP1
      560 CONTINUE
      600 CONTINUE
      RETURN
      END
      515

```

09/28/70 17.02.53

FIN 4.51+13

74/74 03=1

```

SUBROUTINE INITIAL
.....
* SUBROUTINE TO DO INITIAL SETUP AS WELL AS CALCULATE
* THE INITIAL PREDICTIONS
*
* DLLE = DISTANCE FROM FORWARD MOST POINT OF
* THE INSTALLED STORE TO THE WING
* LEADING EDGE AS MEASURED IN THE WING
* PLAN VIEW (POSITIVE).
*
* SEGT(*) = SUM OF PLAN PROJECTED AREAS CUMULATIVE
* SEGMENT
*
* SEGNOI(*) = SUM OF ADJUSTED PLAN PROJECTED AREAS
* CUMULATIVE SEGMENTS
*
* SMID(*) = MIDPOINT OF A SECTIONAL SEGMENT
*
* SMIOI(*) = SEGMENT MIDPOINTS RELATIVE TO STORE
* SEGMENTS
*
* AREASP(*,*) = SEGMENT TYPE CUMULATIVE AREAS
*
* 1) SUBSCRIPT 1
*   A) 1 = NOSE B) 2 = BODY
*   C) 3 = WING D) 4 = TAIL
*
* 2) SUBSCRIPT 2
*   A) 1 = SIDE PROJECTED AREAS
*   B) 2 = PLAN PROJECTED AREAS
*
* AKNOSE(*) = 1=KNOSE FOR SPA
*            2=KNOSE FOR PPA
*
* AKWING(*) = 1=KWING FOR SPA
*            2=KWING FOR PPA
*
* AKTAIL(*) = 1=KTAIL FOR SPA
*            2=KTAIL FOR PPA
*
* SAJUSP(*,*) = SUM OF ADJUSTED SPA
* SUBSCRIPT 1 = TYPE OF SEGMENT
* SUBSCRIPT 2 = 1 SIDE FORCE
*              2 NORMAL FORCE
*
* INDX = 1=SIDE FORCE CALCULATION
*        2=NORMAL FORCE CALCULATION
*
* SPADJ(*,*) = ADJUSTED AREAS FOR EACH SEGMENT
* SUBSCRIPT 1 = NUMBER OF SEGMENT
* SUBSCRIPT 2 = 1=SPA
*              2=RPA
*
* SPADJS(*) = 1=ADJUSTED SPA TOTAL FOR SIDE FORCE
*            2=ADJUSTED PPA TOTAL FOR NORMAL FORCE
*
* SPATSP(*) = 1=SPA TOTAL FOR SIDE FORCE
*            2=PPA TOTAL FOR NORMAL FORCE
*
* AKCSF(*) = 1= ADJUSTED SPA / SPA TOTAL
*           2= ADJUSTED PPA / PPA TOTAL
*
* PREDN(*) = 1=SIDE FORCE INITIAL PREDICTION
*           2=NORMAL FORCE INITIAL PREDICTION
*
* KROTP(*) = THE NUMBER OF CARDS OF A PARTICULAR TYPE
* FOR THE CASE BEING CALCULATED
*
* NCASES(*,*) = THE TYPE OF CASE FOR (CASE NO., CARD NO.)
*
* XMOH(*) = DISTANCE FROM STORE MLP TO AREA SEGMENT
* PPAJFW = ADJUSTED PLAN PROJECTED AREA FORWARD OF THE
* WING
*
* PPFH = PLAN PROJECTED AREA FORWARD OF THE WING
* PREP4 = INITIAL PREDICTION PITCHING MOMENT

```







09/20/76 17.02.53

FTN 4.5+410

SUEROUTINE INITIAL 74/74 OPT=1

```

175      AKINTF = 1.0
      GO TO 300
225      AKNOSE(INDX) = AKNB * AREASP(2,INDX) / AREASP(1,INDX)
      AREAWG = AREASP(3,INDX)
      AREATL = AREASP(4,INDX)
      IF(INDSYM .GE.3) AREAWG = WINGPA
      IF(INDSYM .GE.3) AREATL = TAILPA
      AKTAIL(INDX) = AKTB * (AREASP(2,INDX)+AREASP(1,INDX)) /
      * (AREATL / AC04FG)
      * AKHNG(INDX) = AKHBI * (AREASP(2,INDX)+AREASP(1,INDX)) /
      * (ARFAWG / AC04FG)
      GO TO 300
250      AKNOSE(INDX) = 2.0
      AKHNG(INDX) = 1.0
      AKINTF = 1.0
300      CONTINUE
      DO 450 I=1,INDG
      XOC = SHID(I) / CL02AL
      CALL LININT(6-INDX,1,XOC,DEPT)
      KIP = HSTYPE(I,INDX)
      GO TO (400,410,420,430),KIP
400      ANOSEK = AKNOSE(INDX)
      AHNGK = 1.0
      GO TO 440
410      ANOSEK = 1.0
      AHNGK = 1.0
      GO TO 440
420      ANOSEK = 1.0
      AHNGK = AKHNG(INDX)
      GO TO 440
430      ANOSEK = 1.0
      AHNGK = AKTAIL(INDX) * AKINTF
440      CONTINUE
      SP40J = DEPT * ANOSEK * AHNGK * SPAT(I,INDX)
      SP40J(I,INDX) = SP40J
      SP40J(KIP,INDX) = SP40J(KIP,INDX) + SP40J
      SP40JS(INDX) = SP40JS(INDX) + SP40J
      SP40SP(INDX) = SP40SP(INDX) + SP40SP(INDX)
450      CONTINUE
      AKCSF(INDX) = SP40JS(INDX) / SP40SP(INDX)
      PREJN(INDX) = CL4ISD * AKCSF(INDX)
475      CONTINUE
C *****
C ***** STJP TO CALCULATE ADJUSTED PLAN PROJECTED AREA FORWARD
C ***** OF WING AND ALSO SHADDED AREA
C *****
      MSGPM1 = KRDTYF(3) - 1
      SEG4UT(1) = SP40J(1,2)
      SEG4(1) = SP40J(1,2)
      SH4J(1) = SHID(1)
      NSGTOT = 1
      DO 575 I=1,MSGPM1
      IF(MSG4(I,2).EQ.MSG4(I,1,2)) GO TO 570
      NSGTOT = NSGTOT + 1
      SEG4(NSGTOT) = 0.0
      SEG4J(NSGTOT) = 0.0
      SH4J(NSGTOT) = 0.0
575

```

J9/20/76 17.02.53

FTN 4.3\*410

SUBROUTINE INITIAL 76/76 OPT=1

```

210 570 SEGT(NSGTOT) = SEGT(NSGTOT) + SPAT(I+1,2)
      SEGAD(NSGTOT) = SEGAD(NSGTOT) + SPADBJ(I+1,2)
      SHD(NSGTOT) = SHD(I+1)
      575 CONTINUE
      C ****
      C **** CALCULATION OF FTN AND WING ADJUSTED FLN PROJECTED AREA
      C **** BETWEEN X/C OF 1.0 AND 1.1
      PAXC = 0.0
      NPPAS = XPDTIVE(1)
      DO 515 I=1,NPPAS
      IF(NSTYPE(I,2).NE.2)GO TO 515
      IF(NSGTOT) = SHD(I) / LOCAL
      IF(TEMP1.GT.1.0.AND.TEMP1.LT.1.1)PAXC = PAXC + SPADBJ(I,2)
      515 CONTINUE
      PPAJFW = 0.0
      PPFW = 0.0
      XDM12 = SEGL / 2.0
      DO 590 I=1,NSGTOT
      XDM3 = SHD(I) + XDM12
      IF(XDM3.GT.0.0) GO TO 595
      IF(XDM3/SEGL.GT.1.0)GO TO 580
      PPAJFW = PPAJFW + SEGAD(I)
      PPFW = PPFW + SEGT(I)
      GO TO 590
      580 PPAJFW = PPAJFW - XDM3 / SEGL * SEGAD(I)
      PPFW = PPFW - XDM3/SEGL * SEGT(I)
      GO TO 595
      590 CONTINUE
      595 CONTINUE
      SHDARA = (SPATSP(2) - PPFW) / 144.
      C **** FITTING MOMENT SLOPE PREDICTION
      SPXMPH = 0.0
      DO 350 I=1,INOC
      PXMPH(I) = XMPH(I) * SPADBJ(I,2)
      SPXMPH = SPXMPH + PXMPH(I)
      350 CONTINUE
      AKCPH = SPXMPH / SPATSP(2)
      PREPH = CLAISO * AKCPH
      C **** YAHING MOMENT INITIAL PREDICTION
      SPXMYH = 0.0
      IFIN = 3
      IF(CASE.EQ.2)IFIN = 4
      DO 600 I=1,INOC
      PXMYH(I) = XMYH(I) * SPADBJ(I,1)
      IF(NSTYPE(I,1).EQ.IFIN) GO TO 600
      SPXMYH = SPXMYH + PXMYH(I)
      600 CONTINUE
      AKCYH = SPXMYH / SPATSP(2)
      PREYH = AKCYH * CLAISO
      RETURN
      END

```

```

1  SUBROUTINE PRINT(IFILE)
2  .....
3  SUBROUTINE TO COPY FILES TO OUTPUT
4  1) ALL COPIES OF INTAKE WILL POSITION INTAKE AT
5  THE BEGINNING OF THE NEXT DATA SET.
6  2) IN ALL CASES THE ENTIRE DATA SET IS COPIED TO
7  OUTPUT
8  3) VARIABLES
9  IFILE = 1 COPIES FILE TAPEIN
10 IFILE = 2 COPIES FILE TAPEIN AND CATAL
11 IFILE = 3 COPIES FILE TAPEIN, DATA, IERROD AND
12 IERSUM
13 IFILE = 4 COPIES FILE TAPEIN AND IERROD
14 IFILE = 5 COPIES FILE DATA
15 IFILE = 6 COPIES FILE DATA AND IERROD
16 IFILE = 7 COPIES FILE IERROD
17 IFILE = 8 COPIES FILE REMOVE
18 .....
19 4) THIS ROUTINE ASSURES FILES ARE DEFINED (BLKFIL)
20 .....
21 COMMON/COHINC/ JUM1,IMACH,KROTYP(14),NCASE,NCASES(5,94),NUMCAS,
22 NUMCROD(5),NTACH
23 COMMON/FILES/DATAC,DATIN,GRAPHS,OUTPT,REMOVE,TAPEIN
24 INTEGER DATAC,DATIN,GRAPHS,OUTPT,REMOVE,TAPEIN
25 COMMON/COHERR/ IERR
26 DIMENSION ICOPY(17)
27 IF (IFILE.EQ.8) GO TO 410
28 IF (IFILE.GT.4) GO TO 200
29 WRITE(OUTPT,1000)NUMCAS
30 FORMAT(1H1,40X,35HINPUT DATA PLAYBACK FOR CASE NUMBER ,I5)
31 IF (IERR.EQ.1) WRITE(OUTPT,1150)NCASE
32 FORMAT(1H1,83X,2H- ,I5)
33 P=MIN(TAPEIN
34 IF (IERR.EQ.1) GO TO 75
35 GO 50 I=1,NUMCAS
36 ILINAS = 1
37 NCARDS = NUMCROD(I)
38 DO 25 J=1,NCARDS
39 ILINAS = ILINAS + 1
40 READ(TAPEIN,101)ICOPY
41 IF (I.EQ.NUMCAS) WRITE(OUTPT,102)ICOPY
42 IF (ILINAS.LT.50) GO TO 25
43 WRITE(OUTPT,1000)NUMCAS
44 IF (IERR.EQ.1) WRITE(OUTPT,1150)NCASE
45 ILINAS = 1
46 25 CONTINUE
47 50 CONTINUE
48 GO TO 200
49 75 CONTINUE
50 ILINAS = 1
51 READ(TAPEIN,101)ICOPY
52 ILINAS = ILINAS + 1
53 IF (ILINAS.EQ.50) GO TO 200
54 WRITE(OUTPT,102)ICOPY

```

09/20/76 17.02.53

FIN --54410

COMPUTER PRINT 7/76 03:51

```

102 FORMAT(1X,16A8,14)
   IF (CLIMAS.LT.54) GO TO 104
   WRITE(OUTPT,100) NUMCAS
   WRITE(OUTPT,115) NCASE
   ILINAS = 1
104 CONTINUE
   GO TO 108
209 IF (IFILE.LT.2.OR.IFILE.EQ.4.OR.IFILE.EQ.7) GO TO 300
   REWIND DATAC
210 READ(DATAC,101) ICOPY
   IF (EOF(DATAC).NE.0) GO TO 220
   WRITE(OUTPT,101) ICOPY
   GO TO 210
220 REWIND DATAC
   ENDFILE DATAC
   REWIND DATAC
300 IF (IFILE.LT.3.OR.IFILE.EQ.5) GO TO 400
   ITEMF = 1
   REWIND IERSOR
310 READ(IERSOR,101) ICOPY
   IF (EOF(IERSOR).NE.0) GO TO 320
   ITEMF = ITEMF + 1
   WRITE(OUTPT,101) ICOPY
   GO TO 310
320 CONTINUE
   IF (ITEMF.LE.7.AND.IERR.NE.1) WRITE(OUTPT,1300)
1300 FORMAT(//60X,12H*** HOME *** )
   ENDFILE IERSOR
   REWIND IERSOR
   REWIND IERSOR
   IF (IFILE.NE.3) GO TO 400
   REWIND IERSUM
   ITEMF = 1
330 READ(IERSUM,101) ICOPY
   IF (EOF(IERSUM).NE.0) GO TO 360
   ITEMF = ITEMF + 1
   WRITE(OUTPT,101) ICOPY
   GO TO 330
360 IF (ITEMF.LE.5) WRITE(OUTPT,1300)
   REWIND IERSUM
   ENDFILE IERSUM
   REWIND IERSUM
   RETURN
410 CONTINUE
   REWIND REMOVE
420 READ(REMOVE,101) ICOPY
   IF (EOF(REMOVE).NE.0) GO TO 430
   WRITE(OUTPT,101) ICOPY
   GO TO 420
430 REWIND REMOVE
   ENDFILE REMOVE
   RETURN
   END

```

```

1      SUBROUTINE ERROR(INDEX)
2      .....
3      * ROUTINE CALLED WHENEVER A WARNING MESSAGE OR AN ERROR
4      * MESSAGE IS OUTPUT.
5      .....
6      COMMON/COMLIN/ NPRE,NPRE,NPCINT,X(80),Y(80),BAUX,8ADY
7      COMMON/FILES/DATAC,DATIN,GRAPHS,IERERR,IERSUM,OUTPT,REMOVE,TAPEIN
8      INTEGED,DATAC,DATIN,GRAPHS,OUTPT,REMOVE,TAPEIN
9      COMMON/COMINP/ AKBN,AKINTF,AKN,AKNB,AKTB,AKWB,AKMBI,
10     ALAMDA,ALEFIN(5),ALINFI,ALINFO,ALINT(5),ANGSEL,
11     GOOISO,CLAISO,CLUAL,DIRFI,DIRFO,MDOHF,
12     ICASE,ICONFS,IMAGE( 9),ISYP,ITITLE(36),
13     NSEG(40,2),NSTYPE(40,2),PXCHML,PEALM(3),SEGL,
14     SXL,SPAT(40,2),STORED,STOREL,SUMPA,TAILPA,
15     WINGPA,WSS,XCG,XINTFI,XINTFO,YBIG,YBL,
16     YINTFI,YINTFO,YI,YIFRH,ZPH,ZPLNSP
17     COMMON/COMINC/ DUM1,IMACH,KROTP(14),NCASE,NCASES(5,34),NUMCAS,
18     NUMCJ(5),NMACH
19     COMMON/COMERR/ IERR
20     COMMON/COMINB/ ITYPE(14),NTYES( 4),NOFTNS(7),ICNFGS(5)
21     COMMON/REMOV2/ ICALGR(7),IFIND,INPGRA(7),IPRNT
22     ILINA = ILINA + 1
23     IF(NEXT.EQ.NUMCAS.AND.ILINB.LI.56)GO TO 6
24     WRITE(IERROR,1000)NUMCAS,ITITLE
25     FORMAT(1H1,/40X,50HCAPTIVE STORE AIRLOADS PREDICTION GENERAL MESSA
26     *GFS,10X,14HCASE NUMBER = ,I5,4(/29X,9A3),/)
27     ILINA = 7
28     ILINB = 7
29     6 CONTINUE
30     IF(NEXT.EQ.NUMCAS.AND.ILINB.LI.56)GO TO 8
31     WRITE(IERRSUM,1005)NUMCAS,ITITLE(1),I=1,9),DUM1,
32     (ITITLE(I),I=10,36)
33     1005 FORMAT(1H1,/45X,52HCAPTIVE STORE AIRLOADS PREDICTION OUT OF RANGE
34     * DATA ,13X,14HCASE NUMBER = ,I6,/29X,9A3,9X,14HMACH NUMBER = ,
35     *F5.2,3(/29X,9A3))
36     ILINB = 7
37     IF(NEXT.NE.NUMCAS.OR.ILINB.GE.56) NEXT = NUMCAS
38     8 CONTINUE
39     GO TO(10,20,30,40,50,60,70,80,90,100,110,120,130,140,150,160),
40     *170,180,190,200,210,220,230,240,250,260,270,280,290,300
41     ,INDEX
42     10 WRITE(IERROR,1010)
43     1010 FORMAT(1X,56HWARNING - NO TITLE CARDS ENCOUNTERED PLEASE INCLUDE
44     *
45     *
46     *
47     *
48     *
49     *
50     *
51     *
52     *
53     *
54     *
55     *
56     *
57     *
58     *
59     *
60     *
61     *
62     *
63     *
64     *
65     *
66     *
67     *
68     *
69     *
70     *
71     *
72     *
73     *
74     *
75     *
76     *
77     *
78     *
79     *
80     *
81     *
82     *
83     *
84     *
85     *
86     *
87     *
88     *
89     *
90     *
91     *
92     *
93     *
94     *
95     *
96     *
97     *
98     *
99     *
100    *
101    *
102    *
103    *
104    *
105    *
106    *
107    *
108    *
109    *
110    *
111    *
112    *
113    *
114    *
115    *
116    *
117    *
118    *
119    *
120    *
121    *
122    *
123    *
124    *
125    *
126    *
127    *
128    *
129    *
130    *
131    *
132    *
133    *
134    *
135    *
136    *
137    *
138    *
139    *
140    *
141    *
142    *
143    *
144    *
145    *
146    *
147    *
148    *
149    *
150    *
151    *
152    *
153    *
154    *
155    *
156    *
157    *
158    *
159    *
160    *
161    *
162    *
163    *
164    *
165    *
166    *
167    *
168    *
169    *
170    *
171    *
172    *
173    *
174    *
175    *
176    *
177    *
178    *
179    *
180    *
181    *
182    *
183    *
184    *
185    *
186    *
187    *
188    *
189    *
190    *
191    *
192    *
193    *
194    *
195    *
196    *
197    *
198    *
199    *
200    *
201    *
202    *
203    *
204    *
205    *
206    *
207    *
208    *
209    *
210    *
211    *
212    *
213    *
214    *
215    *
216    *
217    *
218    *
219    *
220    *
221    *
222    *
223    *
224    *
225    *
226    *
227    *
228    *
229    *
230    *
231    *
232    *
233    *
234    *
235    *
236    *
237    *
238    *
239    *
240    *
241    *
242    *
243    *
244    *
245    *
246    *
247    *
248    *
249    *
250    *
251    *
252    *
253    *
254    *
255    *
256    *
257    *
258    *
259    *
260    *
261    *
262    *
263    *
264    *
265    *
266    *
267    *
268    *
269    *
270    *
271    *
272    *
273    *
274    *
275    *
276    *
277    *
278    *
279    *
280    *
281    *
282    *
283    *
284    *
285    *
286    *
287    *
288    *
289    *
290    *
291    *
292    *
293    *
294    *
295    *
296    *
297    *
298    *
299    *
300    *
301    *
302    *
303    *
304    *
305    *
306    *
307    *
308    *
309    *
310    *
311    *
312    *
313    *
314    *
315    *
316    *
317    *
318    *
319    *
320    *
321    *
322    *
323    *
324    *
325    *
326    *
327    *
328    *
329    *
330    *
331    *
332    *
333    *
334    *
335    *
336    *
337    *
338    *
339    *
340    *
341    *
342    *
343    *
344    *
345    *
346    *
347    *
348    *
349    *
350    *
351    *
352    *
353    *
354    *
355    *
356    *
357    *
358    *
359    *
360    *
361    *
362    *
363    *
364    *
365    *
366    *
367    *
368    *
369    *
370    *
371    *
372    *
373    *
374    *
375    *
376    *
377    *
378    *
379    *
380    *
381    *
382    *
383    *
384    *
385    *
386    *
387    *
388    *
389    *
390    *
391    *
392    *
393    *
394    *
395    *
396    *
397    *
398    *
399    *
400    *
401    *
402    *
403    *
404    *
405    *
406    *
407    *
408    *
409    *
410    *
411    *
412    *
413    *
414    *
415    *
416    *
417    *
418    *
419    *
420    *
421    *
422    *
423    *
424    *
425    *
426    *
427    *
428    *
429    *
430    *
431    *
432    *
433    *
434    *
435    *
436    *
437    *
438    *
439    *
440    *
441    *
442    *
443    *
444    *
445    *
446    *
447    *
448    *
449    *
450    *
451    *
452    *
453    *
454    *
455    *
456    *
457    *
458    *
459    *
460    *
461    *
462    *
463    *
464    *
465    *
466    *
467    *
468    *
469    *
470    *
471    *
472    *
473    *
474    *
475    *
476    *
477    *
478    *
479    *
480    *
481    *
482    *
483    *
484    *
485    *
486    *
487    *
488    *
489    *
490    *
491    *
492    *
493    *
494    *
495    *
496    *
497    *
498    *
499    *
500    *
501    *
502    *
503    *
504    *
505    *
506    *
507    *
508    *
509    *
510    *
511    *
512    *
513    *
514    *
515    *
516    *
517    *
518    *
519    *
520    *
521    *
522    *
523    *
524    *
525    *
526    *
527    *
528    *
529    *
530    *
531    *
532    *
533    *
534    *
535    *
536    *
537    *
538    *
539    *
540    *
541    *
542    *
543    *
544    *
545    *
546    *
547    *
548    *
549    *
550    *
551    *
552    *
553    *
554    *
555    *
556    *
557    *
558    *
559    *
560    *
561    *
562    *
563    *
564    *
565    *
566    *
567    *
568    *
569    *
570    *
571    *
572    *
573    *
574    *
575    *
576    *
577    *
578    *
579    *
580    *
581    *
582    *
583    *
584    *
585    *
586    *
587    *
588    *
589    *
590    *
591    *
592    *
593    *
594    *
595    *
596    *
597    *
598    *
599    *
600    *
601    *
602    *
603    *
604    *
605    *
606    *
607    *
608    *
609    *
610    *
611    *
612    *
613    *
614    *
615    *
616    *
617    *
618    *
619    *
620    *
621    *
622    *
623    *
624    *
625    *
626    *
627    *
628    *
629    *
630    *
631    *
632    *
633    *
634    *
635    *
636    *
637    *
638    *
639    *
640    *
641    *
642    *
643    *
644    *
645    *
646    *
647    *
648    *
649    *
650    *
651    *
652    *
653    *
654    *
655    *
656    *
657    *
658    *
659    *
660    *
661    *
662    *
663    *
664    *
665    *
666    *
667    *
668    *
669    *
670    *
671    *
672    *
673    *
674    *
675    *
676    *
677    *
678    *
679    *
680    *
681    *
682    *
683    *
684    *
685    *
686    *
687    *
688    *
689    *
690    *
691    *
692    *
693    *
694    *
695    *
696    *
697    *
698    *
699    *
700    *
701    *
702    *
703    *
704    *
705    *
706    *
707    *
708    *
709    *
710    *
711    *
712    *
713    *
714    *
715    *
716    *
717    *
718    *
719    *
720    *
721    *
722    *
723    *
724    *
725    *
726    *
727    *
728    *
729    *
730    *
731    *
732    *
733    *
734    *
735    *
736    *
737    *
738    *
739    *
740    *
741    *
742    *
743    *
744    *
745    *
746    *
747    *
748    *
749    *
750    *
751    *
752    *
753    *
754    *
755    *
756    *
757    *
758    *
759    *
760    *
761    *
762    *
763    *
764    *
765    *
766    *
767    *
768    *
769    *
770    *
771    *
772    *
773    *
774    *
775    *
776    *
777    *
778    *
779    *
780    *
781    *
782    *
783    *
784    *
785    *
786    *
787    *
788    *
789    *
790    *
791    *
792    *
793    *
794    *
795    *
796    *
797    *
798    *
799    *
800    *
801    *
802    *
803    *
804    *
805    *
806    *
807    *
808    *
809    *
810    *
811    *
812    *
813    *
814    *
815    *
816    *
817    *
818    *
819    *
820    *
821    *
822    *
823    *
824    *
825    *
826    *
827    *
828    *
829    *
830    *
831    *
832    *
833    *
834    *
835    *
836    *
837    *
838    *
839    *
840    *
841    *
842    *
843    *
844    *
845    *
846    *
847    *
848    *
849    *
850    *
851    *
852    *
853    *
854    *
855    *
856    *
857    *
858    *
859    *
860    *
861    *
862    *
863    *
864    *
865    *
866    *
867    *
868    *
869    *
870    *
871    *
872    *
873    *
874    *
875    *
876    *
877    *
878    *
879    *
880    *
881    *
882    *
883    *
884    *
885    *
886    *
887    *
888    *
889    *
890    *
891    *
892    *
893    *
894    *
895    *
896    *
897    *
898    *
899    *
900    *
901    *
902    *
903    *
904    *
905    *
906    *
907    *
908    *
909    *
910    *
911    *
912    *
913    *
914    *
915    *
916    *
917    *
918    *
919    *
920    *
921    *
922    *
923    *
924    *
925    *
926    *
927    *
928    *
929    *
930    *
931    *
932    *
933    *
934    *
935    *
936    *
937    *
938    *
939    *
940    *
941    *
942    *
943    *
944    *
945    *
946    *
947    *
948    *
949    *
950    *
951    *
952    *
953    *
954    *
955    *
956    *
957    *
958    *
959    *
960    *
961    *
962    *
963    *
964    *
965    *
966    *
967    *
968    *
969    *
970    *
971    *
972    *
973    *
974    *
975    *
976    *
977    *
978    *
979    *
980    *
981    *
982    *
983    *
984    *
985    *
986    *
987    *
988    *
989    *
990    *
991    *
992    *
993    *
994    *
995    *
996    *
997    *
998    *
999    *
1000   *

```

39/20/76 17.02.53

FIN 4.5+410

SUPERROUTINE ERROR 74/74 CPT=1

```

60 WRITE(IEPROR,1000)IABS(IGPPE),NLPPE
1060 FORMAT(1X,24HFATAL ERROR - GRAPH NUMBER,15,12H LINE NUMBER,1,
* 30H MISSING IN DATA BASE ATTACHED)
CALL STOPPT
CALL PRINTP(3)
IF(IIFING.GT.0)CALL PRINTP(3)
64 STOP
70 WRITE(IEPROR,1070)IYPE(IEPR)
1070 FORMAT(1X,30HFATAL ERROR - A MINIMUM OF FORTY .14,38HCARDS ARE ALL
* ONEJ, RESPACE YOUR IDEAS. )
RETURN
80 WRITE(IEPROR,1080)
1080 FORMAT(1X,30HFATAL ERROR - ICASE MUST BE 1 2 OR 3 )
RETURN
90 WRITE(IEPROR,1090)ICASE
1090 FORMAT(1X,72HWARNING - INPUT DATA INCLUDES EXTRANEOUS DATA ON STOR
* E CARD FOR ICASE = ,15)
RETURN
100 WRITE(IEPROR,1100)DUM1
1100 FORMAT(1X,61HERROR - MAIN NUMBER OUT OF RANGE FOR THIS METHOD. MAC
* H NUMBER ,F5.2,30H NOT INCLUDED IN PREDICTIONS. )
RETURN
110 WRITE(IEPROR,1110)IAGE
1110 FORMAT(1X,52HFATAL ERROR - SPECIFICATION FIELD BAD FOR INPUT CARD,
* /5X,24H,5X,38H,
ILINA = ILINA + 1
IERR = 1
RETURN
120 IF(DUM1.EQ.DUMX.AND.NUMCAS.EQ.NXTCAS)GO TO 115
WRITE(IEPROR,2000)DUM1
ILIN3 = ILIN3 + 3
115 CONTINUE
2000 FORMAT(3X,14HMATCH NUMBER = ,F5.2,/)
WRITE(IEPROR,1120)BADX,EADY,IABS(NGPPE),NLPPE
1120 FORMAT(5X,24HWARNING - DATA POINT X = ,F10.4,5H, Y = ,E10.4,24H OUT
* OF RANGE FOR FIGURE,15,5H LINE,15)
DUMX = DUM1
NXTCAS = NUMCAS
ILIN3 = ILIN3 + 1
ILINA = ILINA - 1
RETURN
130 WRITE(IEPROR,1130)IERR
1130 FORMAT(1X,113HFATAL ERROR - INCORRECT DEFINITION ON STORED CARD FO
* R AREA SPECIFICATION. (ONLY 1 ) OR (SPA=PPA) ALLOWED )
* 7H INPUT = ,A7)
RETURN
140 WRITE(IEPROR,1140)IERR
1140 FORMAT(1X,78HFATAL ERROR - INCORRECT STORE CONFIGURATION TYPE. CO
* NFIGURATION STORE TYPE = ,1A1,9H INVALID )
RETURN
150 WRITE(IEPROR,1150)IYPE(IEPR)
1150 FORMAT(1X,22HERROR - MORE THAN ONE .14,43H CARD READ IN THIS CASE
* LAST CARD READ IS USED )
RETURN
160 WRITE(IEPROR,1160)
1160 FORMAT(1X,21HINPUT DATA NOT FOUND )
IERR = 1

```

```

115      RETURN
1170      WRITE(IERROR,1170)
1170      FORMAT(1X,46HFATAL ERROR - TOO MANY CASES INCLUDED IN DATA. )
      CALL PRINTR(4)
      STOP
1180      WRITE(IERROR,1180)
1180      FORMAT(1X,53HFATAL ERROR - ONE OF THE FOLLOWING PARAMETERS IS ZERO
      * /20X,25HSTORE CENTER OF GRAVITY
      * /20X,15HSTORE LENGTH
      * /20X,15HSTORE DIAMETER )
      ILINA = ILINA + 3
      IERR = 1
      RETURN
1190      WRITE(IERROR,1190)
1190      FORMAT(1X,53HFATAL ERROR - ONE OF THE FOLLOWING PARAMETERS IS ZERO
      * /20X,13HSTORE MID LUG
      * /20X,14HSEGMENT LENGTH )
      ILINA = ILINA + 2
      IERR = 1
      RETURN
1200      WRITE(IERROR,1200)
1200      FORMAT(1X,53HFATAL ERROR - ONE OF THE FOLLOWING PARAMETERS IS ZERO
      * /20X,12H Y BUTLINE
      * /20X,15H WING SEMI-SPAN
      * /20X,59H DISTANCE FROM FUSELAGE TO WING TIP
      * FOR HIGH WING AIRCRAFT )
      ILINA = ILINA + 3
      IERR = 1
      RETURN
1210      WRITE(IERROR,1210) ITYPE(IERR)
1210      FORMAT(1X,55HFATAL ERROR - AREA NOT VALID ON AN ,A3,4HCARD)
      RETURN
1220      WRITE(IERROR,1220)
1220      FORMAT(1X,84HFATAL ERROR - WHEN ICASE = 1 NONE OF THE FOLLOWING MA
      * Y BE ZERO. KN, K3(4) OR KB(3) )
      IERR = 1
      RETURN
1230      WRITE(IERROR,1230)
1230      FORMAT(1X,90HFATAL ERROR - WHEN ICASE = 2 NONE OF THE FOLLOWING MA
      * Y BE ZERO. KM/B, KT/B, KH/B, OR KINTE
      * )
      IERR = 1
      RETURN
1240      WRITE(IERROR,1240) ITYPE(IERR)
1240      FORMAT(1X,14HFATAL ERROR - ,A0,13HCARD MISSING )
      RETURN
1250      WRITE(IERROR,1250)
1250      FORMAT(1X,80HFATAL ERROR - AXIAL FORCE CALCULATION REQUIRES - NON-
      * ZERO C/J150
      * )
      IERR = 1
      RETURN
1260      WRITE(IERROR,1260) IOPTS(IERR)
1260      FORMAT(1X,51HFATAL ERROR - LIFT CURVE SLOFF MUST NOT BE ZERO IF
      * ,A2,23H IS CHOSEN ON THE OPTION CARD )
      RETURN
1270      WRITE(IERROR,1270)
1270      FORMAT(1X,46HFATAL ERROR - REQUIRED PLATFORM AREAS MISSING )
      IERR = 1

```



09/20/76 17.02.53

PTN +.5+413

7-74 CPT=1

SUBROUTINE ERROR

```

RETURN
280 WRITE(1,ERRFUP,2240)
2280 FORMAT(1X,'52HWARNING: * OR * CONFIGURATION CHOSEN WITH AREAS INPUT)
RETURN
290 WRITE(1,ERRFOP,2230)
2290 FORMAT(1X,'48HFATAL ERROR - ICASE=2 AND NO TAIL AREA INCLUDED )
CALL PRINTR(4)
STOP
300 WRITE(1,ERRRUP,3000)
3300 FORMAT(1X,'54HFATAL ERROR - INCORRECT VALUES ON OPTICH CARD )
RETURN
END
    
```

17

190

09/20/76 17.02.53

FTN 4.54410

SUBROUTINE LININT 4/74 OPT=1

```

1      SUBROUTINE LININT(NSCUP,NLCUR,XINDEP,YOEP)
2      *
3      * THIS ROUTINE LOOKS UP DEPENDENT VALUES IN THE DATA BASE *
4      * AND LINEARLY INTERPOLATES WHEN NECESSARY TO DEFINE A *
5      * VALUE. ALL INDEPENDENT VALUES USED ARE ACCEPTABLE WITH *
6      * THE RESULT (FOR OUT OF RANGE VARIABLES) BEING *
7      * EXTRAPOLATED LINEARLY BEYOND THE SCOPE OF DATA WHEN *
8      * NECESSARY. ALL OUT OF RANGE VALUES ARE INCLUDED IN AN *
9      * ERROR SUMMARY AT THE END OF EACH SECTIONAL OUTPUT *
10     * X(*) = INDEPENDENT VALUES FETCHED FROM THE *
11     * DATA BASE *
12     * Y(*) = DEPENDENT VALUES FETCHED FROM THE *
13     * DATA BASE *
14     * NSCUR = THE CURRENT GRAPH BEING LOOKED UP *
15     * NLCUR = THE CURRENT LINE BEING LOOKED UP *
16     * XINDEP = THE CURRENT INDEPENDENT VARIABLE *
17     * YOEP = THE CURRENT INTERPOLATED DEPENDENT *
18     * VARIABLE *
19     *
20     *
21     * COMMON/CONLIN/ YPRE,NLPRE,NPOINT,X(60),Y(60),BADX,BADY
22     * COMMON/FILES/DATIN,GRAPHS,IEROR,IEKSUM,OUTPT,REMOVE,TAPEIN
23     * INTEGER DATAC,DATIN,GRAPHS,OUTPT,REMOVE,TAPEIN
24     * COMMON/CONINC/ JUMI,IMACH,KROTP(14),NCASE,NCASES(5,94),NUMCAS,
25     * NUMCSD(5),NMACH
26     * COMMON/REMOV2/ ICAL3(7),IFIND,INPGR(7),JFONT
27     * COMMON/CONSTR/ ISTAR(46,7),IDSTAR
28     * COMMON/CONINP/ AKB,AKINF,AKN,AKB,AKTB,AKWB,AKWB1,
29     * ALAMDA,ALFEIR(5),ALINF1,ALINFO,ALINLT(5),ANUSEL,
30     * CDOISO,CLAIISO,CLOCAL,DINTFI,DINTFO,HWDHF,
31     * ICASS,ICONFG,IMAGE( 9),ISYF,ITITLE(36),
32     * NSEG(4,0,2),NSTYPE(40,2),PXDCML,REALM(8),SEGL,
33     * SML,SPAT(40,2),STORED,STOREL,SUMPA,TAILPA,
34     * XINGFA,WSS,XCG,XINTFI,XINTFO,YBIG,YBL,
35     * YINFEI,YINTFO,YI,YIPRY,ZPH,ZPLNSP
36     *
37     * NTRIES = 0
38     * BAD = 0
39     * IF(NLCUR.EQ.NGPRE.AND.NLCUP.EQ.NLPRE) GO TO 20
40     * READ(GRAPH,1010)NGPRE,NLPRE,NPOINT,NCARDS
41     * IF(EOF(GRAPH))XIE(0)GO TO 75
42     * IF(NLCUR.EQ.NGPRE.AND.NLCUP.EQ.NLPRE) GO TO 15
43     * READ(GRAPH,1021)(X(I),I=1,NCARDS)
44     * GO TO 10
45     *
46     * 15 READ(GRAPH,1000)(X(I),Y(I),I=1,NPOINT)
47     * 1000 FORMAT(3(1X,E11.4))
48     * 1010 FORMAT(4I10)
49     * 20 IF(X(1).LE.XINDEP)GO TO 30
50     * INDEX = 2
51     * GO TO 50
52     * 30 IF(X(NPOINT).GT.XINDEP) GO TO 40
53     * INDEX = NPOINT
54     * GO TO 60
55     * 40 DO 50 INDEX = 2, NPOINT
56     * IF(X(INDEX)-1).LT.XINDEP.AND.X(INDEX).GT.XINDEP) GO TO 70
57     * 50 CONTINUE
58     * 60 BADX = XINDEP

```

09/20/76 17.02.53

FIN --S-41C

SUBROUTINE LININT 74/74 COT=1

```

      IBAO = 1
      ISTAR = (IPOSTAR, IMAO) = 14*
      70 X1 = X(INDX-1)
      YY1 = Y(INDX-1)
      X2 = X(INDX)
      Y2 = Y(INDX)
      XSLOPE = (Y2 - YY1) / (X2 - X1)
      65 X8 = Y2 - XSLOPE * X2
      YDEPT = XSLOPE * X(INDX) + X3
      IF (IBAN.EQ.0) GO TO 75
      BADD = YDEPT
      CALL ERROP(12)
      74 CONTINUE
      NGRAF = IABS(NGCUR)
      IF (ICALCK(IPRNT).EQ.0) GO TO 80
      IF (ILINE.LT.151.AND.NUMCAS.EQ.LAST.AND.JUMX.EQ.JUM1) GO TO 55
      WRITE(REMOVE,1065) (ITITLE(I), I=1,9), NUMCAS, (ITITLE(I), I=10,18),
      *
      75 JUM1, (ITITLE(I), I=19,36)
      1065 FORMAT(1H1, //30X, 70+VALUES USED FROM GRAPHS IN CALCULATION OF CAPT
      *IVE WIPLOAS PREDICTIONS, //20X, 9A8, 18X, 11MCASE NUMBER, I5,
      * /20X, 9A8, 18X, 11MPACH NUMBER, F6.2,
      * 2(//20X, 9A8), //)
      40 WRITE(REMOVE,1070)
      1070 FORMAT(16X, 3(28+FIGURE LINE X Y, 11X), /6X,
      * 3(30+NUMBER NUMBER VALUE VALUE, 9X))
      ILINE = 7
      NPLACE = 0
      65 LAST = NUMCAS
      JUMX = JUM1
      ILINE = ILINE + 1
      NPLACE = NPLACE + 1
      IF (NPLACE-2) 71, 72, 73
      71 WRITE(REMOVE,1071)NGRAPH,NLCUR,XINDEX,YDEPT
      1071 FORMAT(3X, I5, 3X, I5, 2X, E9.3, 2X, E9.3)
      GO TO 74
      72 WRITE(REMOVE,1072)NLCUR,NLCUR,XINDEX,YDEPT
      1072 FORMAT(1H, 43X, I5, 3X, I5, 2X, E9.3, 2X, E9.3)
      GO TO 74
      73 WRITE(REMOVE,1073)NGRAPH,NLCUR,XINDEX,YDEPT
      1073 FORMAT(1H, 82X, I5, 3X, I5, 2X, E9.3, 2X, E9.3)
      NPLACE = 0
      74 CONTINUE
      80 RETURN
      75 REWIND GRAPHS
      NTRIES = NTRIES + 1
      IF (NTRIES.LT.2) GO TO 10
      NGPRE = NGCUR
      NLCUR = NLCUR
      CALL ERROP(6)
      105 ENG

```





09/20/76 17.02.53

FIN 4.5+416

SURROUTINE STOPPT 74.74 OPT=1

```

65 WRITE (DATAC, 2000) (SFBAIC(I), ISTAR(2, I), I=1, IMACH)
   WRITE (DATAC, 1600)
   WRITE (DATAC, 1850) (SFYSPF(I), ISTAR(3, I), I=1, IMACH)
   WRITE (DATAC, 2050) (SFYIPF(I), ISTAR(5, I), I=1, IMACH)
   WRITE (DATAC, 1875) (SFYSPF(I), ISTAR(4, I), I=1, IMACH)
   WRITE (DATAC, 2075) (SFYIPF(I), ISTAR(6, I), I=1, IMACH)
   WRITE (DATAC, 1700)
   WRITE (DATAC, 1800) (SFYASF(I), ISTAR(7, I), I=1, IMACH)
   WRITE (DATAC, 2000) (SFYAF(I), ISTAR(8, I), I=1, IMACH)
100 CONTINUE
   IF (ICALSG(4).NE.1) GO TO 110
   ILINES = ILINES + 15
   WRITE (DATAC, 1100)
   WRITE (DATAC, 850) (YB3REK(I), I=1, IMACH)
   WRITE (DATAC, 1810) (YB4ASC(I), ISTAR(9, I), I=1, IMACH)
   WRITE (DATAC, 1820) (YB4MSC(I), ISTAR(45, I), I=1, IMACH)
   WRITE (DATAC, 2010) (YB4AIC(I), ISTAR(10, I), I=1, IMACH)
   WRITE (DATAC, 2020) (YB4MIL(I), ISTAR(46, I), I=1, IMACH)
   WRITE (DATAC, 1600)
   WRITE (DATAC, 1850) (YB4SCF(I), ISTAR(12, I), I=1, IMACH)
   WRITE (DATAC, 2050) (YB4ICF(I), ISTAR(14, I), I=1, IMACH)
   WRITE (DATAC, 1875) (YB4SCH(I), ISTAR(11, I), I=1, IMACH)
   WRITE (DATAC, 2075) (YB4ICP(I), ISTAR(13, I), I=1, IMACH)
   WRITE (DATAC, 1700)
   WRITE (DATAC, 1800) (YB4ASF(I), ISTAR(15, I), I=1, IMACH)
   WRITE (DATAC, 2000) (YB4AIC(I), ISTAR(16, I), I=1, IMACH)
110 CONTINUE
   IF (ICALSG(2).NE.1) GO TO 120
   ILINES = ILINES + 13
   WRITE (DATAC, 1200)
   WRITE (DATAC, 1800) (YB4ASC(I), ISTAR(17, I), I=1, IMACH)
   WRITE (DATAC, 2000) (YB4AIC(I), ISTAR(18, I), I=1, IMACH)
   WRITE (DATAC, 1600)
   WRITE (DATAC, 1850) (YB4SCF(I), ISTAR(20, I), I=1, IMACH)
   WRITE (DATAC, 2050) (YB4ICF(I), ISTAR(22, I), I=1, IMACH)
   WRITE (DATAC, 1875) (YB4SCH(I), ISTAR(19, I), I=1, IMACH)
   WRITE (DATAC, 2075) (YB4ICP(I), ISTAR(21, I), I=1, IMACH)
   WRITE (DATAC, 1700)
   WRITE (DATAC, 1800) (YB4ASC(I), ISTAR(23, I), I=1, IMACH)
   WRITE (DATAC, 2000) (YB4AIC(I), ISTAR(24, I), I=1, IMACH)
120 CONTINUE
   IF (ICALSG(3).NE.1) GO TO 130
   ILINES = ILINES + 13
   IF (ILINES.LT.50) GO TO 125
   ILINES = 7
   WRITE (DATAC, 800) NUMTAS, IIIILE,
     * (PEALM(I), I=1, IPTS, JMACH)
125 CONTINUE
   WRITE (DATAC, 1300)
   WRITE (DATAC, 1800) (YB4ASC(I), ISTAR(25, I), I=1, IMACH)
   WRITE (DATAC, 2000) (YB4AIC(I), ISTAR(26, I), I=1, IMACH)
   WRITE (DATAC, 1600)
   WRITE (DATAC, 1850) (YB4SCF(I), ISTAR(28, I), I=1, IMACH)
   WRITE (DATAC, 2050) (YB4ICF(I), ISTAR(30, I), I=1, IMACH)
   WRITE (DATAC, 1875) (YB4SCH(I), ISTAR(27, I), I=1, IMACH)
   WRITE (DATAC, 2075) (YB4ICP(I), ISTAR(29, I), I=1, IMACH)
   WRITE (DATAC, 1700)

```

SUBROUTINE STOP 74/74 QFT=1

```

115 WRITE(CATAC,1800)(PYIASC(I),ISTARS(31,I),I=1,IMACH)
116 WRITE(CUATAC,2000)(QYIAIF(I),ISTARS(32,I),I=1,IMACH)
130 CONTINUE
    IF(ICALSG(5).NE.1)GO TO 140
    IILINES = IILINES + 12
    IF(IILINES.LT.50)GO TO 135
    IILINES = 7
    WRITE(CUATAC,800)NUMCAS,ITITLE,
    * (REALN(I),I=1OTS,JMACH)
135 CONTINUE
    WRITE(CATAC,1400)
    WRITE(CUATAC,1800)(QYBASF(I),ISTARS(33,I),I=1,IMACH)
    WRITE(CUATAC,2000)(QYBAIF(I),ISTARS(34,I),I=1,IMACH)
    WRITE(CUATAC,1600)
    WRITE(CUATAC,1800)(QYSPF(I),ISTARS(36,I),I=1,IMACH)
    WRITE(CUATAC,2000)(QYSPF(I),ISTARS(38,I),I=1,IMACH)
    WRITE(CUATAC,1875)(QYSPH(I),ISTARS(35,I),I=1,IMACH)
    WRITE(CUATAC,2075)(QYSPH(I),ISTARS(37,I),I=1,IMACH)
    WRITE(CUATAC,1700)
    WRITE(CUATAC,2000)(QYIAIF(I),ISTARS(39,I),I=1,IMACH)
140 CONTINUE
    IF(ICALSG(6).NE.1) GO TO 150
    IILINES = IILINES + 13
    IF(IILINES.LT.50)GO TO 145
    IILINES = 7
    WRITE(CUATAC,300)NUMCAS,ITITLE,
    * (REALH(I),I=1PTS,JMACH)
145 CONTINUE
    WRITE(CUATAC,1500)
    WRITE(CUATAC,1800)(QYBASF(I),ISTARS(40,I),I=1,IMACH)
    WRITE(CUATAC,2000)(QYBAIF(I),ISTARS(41,I),I=1,IMACH)
    WRITE(CUATAC,1600)
    WRITE(CUATAC,2050)(QYIPF(I),ISTARS(42,I),I=1,IMACH)
    WRITE(CUATAC,2075)(QYIPF(I),ISTARS(43,I),I=1,IMACH)
    WRITE(CUATAC,1700)
    WRITE(CUATAC,2000)(QYIAIF(I),ISTARS(44,I),I=1,IMACH)
150 CONTINUE
    WRITE(CUATAC,875) STGEL,SREF,STORED
    800 FORMAT(1H1,/,739X,53HCAPTIVE AIRLOADS PREDICTION TECHNIQUE CALCULAT
    * ED DATA ,19X,14HCASE NUMBER = ,15,/,4/29X,9A8),/2X,11MMACH NUMBE
    * R ,32X,7(3X,F8.2))
    875 FORMAT(/2X,21HREFERENCE DIMENSIONS
    * /,6X,40HSTORE CENTER OF GRAVITY TO FORWARD LUG = ,F5.2,7H INCHES.
    * /,6X,24HSTORE REFERENCE AREA = ,F6.2,8H FEET**2
    * /,6X,24HSTORE REFERENCE LENGTH = ,F6.2,6X,F6.2)
    850 FORMAT(5X,21HALPHA BREAK (DEGREES) ,15X,7(6X,F6.2)
    1800 FORMAT(/2X,21HSLIDE FORCE COEFFICIENTS,/4X,13HBASIC AIRLOAD )
    1100 FORMAT(/2X,26HYAWING MOMENT COEFFICIENTS,/4X,13HBASIC AIRLOAD)
    1200 FORMAT(/2X,26HNSPINAL FORCE COEFFICIENTS,/4X,13HBASIC AIRLOAD)
    1300 FORMAT(/2X,26HFLIGHTING MOMENT COEFFICIENTS,/4X,13HBASIC AIRLOAD)
    1400 FORMAT(/2X,24HAXIAL FORCE COEFFICIENTS,/4X,13HBASIC AIRLOAD)
    1500 FORMAT(/2X,27HROLLING MOMENT COEFFICIENTS,/4X,13HBASIC AIRLOAD)
    1600 FORMAT(4X,23HINCREMENT-AIRCRAFT YAW )
    1700 FORMAT(4X,37HINCREMENT-ADJACENT STORE INTERFERENCE )
    1800 FORMAT(6X,16HSLIDE PREDICTION,24X,7(2X,F9.5,A1)
    1810 FORMAT(6X,35HSLPE PREDICTION < ALPHA BREAK ,5X,7(2X,F9.5,A1)
    1820 FORMAT(6X,35HSLPE PREDICTION > ALPHA BREAK ,5X,7(2X,F9.5,A1)

```

09/20/76 17.02.53

FTN 4.5+410

SUBROUTINE STOPPI 74/74 OPT=1

```

1850 FORMAT(6X,16HSLOPE PREDICTION,17X,7H(+BS) ,7(2X,F9.5,A1))
1875 FORMAT(6X,16HSLOPE PREDICTION,17X,7H(-BS) ,7(2X,F9.5,A1))
2000 FORMAT(6X,20HINTERCEPT PREDICTION,20X,7(2X,F9.5,A1))
2010 FORMAT(6X,35HINTERCEPT PREDICTION < ALPHA BREAK ,5X,7(2X,F9.5,A1))
2020 FORMAT(6X,35HINTERCEPT PREDICTION > ALPHA BREAK ,5X,7(2X,F9.5,A1))
2030 FORMAT(6X,35HINTERCEPT PREDICTION,13X,7H(+BS) ,7(2X,F9.5,A1))
2050 FORMAT(6X,20HINTERCEPT PREDICTION,13X,7H(-BS) ,7(2X,F9.5,A1))
2075 RETURN
      END

```

175

180



09/20/76 17.02.53

FPA 4.5413

SUBROUTINE SIDESP 74/74 OPT=1

```

1      SUBROUTINE SIDESP
2      .....
3      * SUBROUTINE TO CALCULATE THE SIDE FORCE CONTRIBUTION
4      * FOR SIMPLE CARBIDE TYPE STOPS.
5      * SFQAL(*) = INCREMENTAL SIDE FORCE SLOPE
6      *      = LOW MACH NUMBER
7      *      ? = HIGH MACH NUMBER
8      *
9      * SIDE FORCE
10     *
11     * BASIC AIRPLANE
12     * SFBRASP = SLOPE PREDICTION AT MACH = 0.5
13     * SFBRASC(*) = SFBRASP * SLOPE CORRECTION AT MACH = X
14     * SFBAIF = INTERCEPT PREDICTION AT MACH = 0.5
15     * SFBAIC(*) = SFBAIF * INTERCEPT CORRECTION AT MACH=X
16     * INCREMENT-AIRCRAFT YAW
17     * SFYSP(*) = SLOPE PREDICTION
18     * SFYSPM(*) = SLOPE PREDICTION
19     * SFYIP(*) = INTERCEPT PREDICTION
20     * SFYIPM(*) = INTERCEPT PREDICTION
21     * INCREMENT-ADJACENT STORE INTERFERENCE
22     * SFIASP(*) = SLOPE PREDICTION
23     * SFIAIP(*) = INTERCEPT PREDICTION
24     *
25     * COMMON/CONING/ NUM1,IMACH,KRDTYP(14),NCASE,NCASES(5,94),NUMCAS,
26     *
27     * COMMON/CONING/ AKBM,AKHIF,AKN,AKNB,AKTB,AKW9,AKWBI,
28     * ALA1DA,ALFIN(5),ALINFI,ALINFO,ALINLT(5),ANUSL,
29     * COOISO,CLAISO,CLOCAL,DINTFI,DINTFL,UNITFO,WHDF,
30     * ICASE,ICMFG,IMAGE( 9),ISY,ITITLE(36),
31     * YSEJ(40,2),NSTYPE(40,2),PXDCML,REALM(8),SFGL,
32     * S4L,SPAT(40,2),STORED,STOREL,SUMPA,TAILPA,
33     * KINGPA,WSS,XCG,XINTFI,XINTFO,YBIG,YUL,
34     * YINTEL,YINTFO,YLY,IPRM,ZPH,ZPLNSP
35     * AKCSF(2),PREON(2),PREPH,PREYM,PXKUPM(40),
36     * PXMOV1(40),X40M(40)
37     *
38     * COMMON/CONINT/ SFBRASP,SFBASC(7),SFBAIF,SFEAIC(7),SFYSP(7),
39     * SFYSPM(7),SFYIP(7),SFYIPM(7),SFIAIP(7),SFIAIP(7)
40     * COM ION/FILES/DATAC,DATIN,GRAPH,IERXOR,IFPSUM,OUTPT,REMOVE,TAPEIN
41     * INTEGRO,DATAC,DATIN,GRAPH,OUTPT,REMOVE,TAPEIN
42     * COMMON/CONSET/ AUPJSL,AKCPH,AKCYM,AKNGSE(2),AKTAIL(2),
43     * AKWING(2),ALEDSL,ALEL,ANUPP,AREASP(4,2),
44     * CDCL45,CDCL45,CDCL45,CDCL45,CDCL45,CDCL45,CDCL45,CDCL45,
45     * IDSYA,IFR0,IMACH1,PPAJFH,PPAXC,SAUJSP(4,2),SHDGA-4,
46     * SLDSPF,SLDS45,SPAUJS(2),SPATSP(2),SPEF,
47     * SPISID,STLUCL,STPAWS,YDSTD
48     *
49     * COMMON/CONMAC/ XLINTD
50     * COMMON/REMOVE/ ICALCP(7),IFIND,IMPGR(7),IPRNT
51     * COMMON/CONSTR/ ISTA(5,46,7),IDSTAR
52     * DIMENSION SFQAL(2),SFMRG(2)
53     * SFBASC(IMACH) = 0.0
54     * SFBAIC(IMACH) = 0.0
55     * SFYSPM(IMACH) = 0.0
56     * SFYIPM(IMACH) = 0.0
57     * SFYIPM(IMACH) = 0.0
58     * SFYIPM(IMACH) = 0.0
59     * SFYIPM(IMACH) = 0.0
60     * SFYIPM(IMACH) = 0.0
61     * SFYIPM(IMACH) = 0.0
62     * SFYIPM(IMACH) = 0.0
63     * SFYIPM(IMACH) = 0.0
64     * SFYIPM(IMACH) = 0.0
65     * SFYIPM(IMACH) = 0.0
66     * SFYIPM(IMACH) = 0.0
67     * SFYIPM(IMACH) = 0.0
68     * SFYIPM(IMACH) = 0.0
69     * SFYIPM(IMACH) = 0.0
70     * SFYIPM(IMACH) = 0.0
71     * SFYIPM(IMACH) = 0.0
72     * SFYIPM(IMACH) = 0.0
73     * SFYIPM(IMACH) = 0.0
74     * SFYIPM(IMACH) = 0.0
75     * SFYIPM(IMACH) = 0.0
76     * SFYIPM(IMACH) = 0.0
77     * SFYIPM(IMACH) = 0.0
78     * SFYIPM(IMACH) = 0.0
79     * SFYIPM(IMACH) = 0.0
80     * SFYIPM(IMACH) = 0.0
81     * SFYIPM(IMACH) = 0.0
82     * SFYIPM(IMACH) = 0.0
83     * SFYIPM(IMACH) = 0.0
84     * SFYIPM(IMACH) = 0.0
85     * SFYIPM(IMACH) = 0.0
86     * SFYIPM(IMACH) = 0.0
87     * SFYIPM(IMACH) = 0.0
88     * SFYIPM(IMACH) = 0.0
89     * SFYIPM(IMACH) = 0.0
90     * SFYIPM(IMACH) = 0.0
91     * SFYIPM(IMACH) = 0.0
92     * SFYIPM(IMACH) = 0.0
93     * SFYIPM(IMACH) = 0.0
94     * SFYIPM(IMACH) = 0.0
95     * SFYIPM(IMACH) = 0.0
96     * SFYIPM(IMACH) = 0.0
97     * SFYIPM(IMACH) = 0.0
98     * SFYIPM(IMACH) = 0.0
99     * SFYIPM(IMACH) = 0.0
100    * SFYIPM(IMACH) = 0.0

```

09/20/76 17.02.53

FTN 4.5410

SUBROUTINE SIDFR 74/74 OFT=1

```

50 IPRT = 1
   IF (ICALSG(IPRT),EQ,0.AND.IICALSG(4).EQ,0)GO TO 20000
   XLINTD = REAL(IMACH)
   AMOSES = SADJSP(1,1)
   AWINGS = SADJSP(3,1)
   IF (ICASE,EO,2) AWINGS = SADJSP(4,1)
   C *** SFASP = BASIC AIRLOAD SIDE FORCE SLOPE PREDICTION
   GO 50 IF 1.8
55 ISTAR(I,IMACH) = 1H
   59 CONTINUE
   IOSTAT = 1
   IF (JUM1,GT,C.5)GO TO 100
   CALL LININT(13,1,STOWS,DEP13)
   CALL LININT(14,1,YDSTO,DEP14)
   DEP14 = 1.0 - (1.0 - DEP14) * HMDHF
   CALL LININT(15,1,STLOC,DEP15)
   CALL LININT(16,1,ZFH,DEP16)
   SFASP = PRON(1) * DEP13 + DEP14 * DEP15 + DEP16 * SLD545
   CONTINUE
100 *****
   C *****
   C *****
   C *****
   XDELTA = 0.0
   IADD = 0
   IF (JUM1,EO,C.5)GO TO 160
   CALL BREAKF(18,4,BREAK,CLSL45,DEP18,(DEP18H)
   IF (DEP18,LT,0.0)GO TO 160
   GO TO (105,110,120,130),BREAK
105 IADD = IADD + 1
   SF2AL(IADD) = 0.0
110 IADD = IADD + 1
   CALL LININT(19,1,CLSL45,DEP19)
   CALL LININT(20,1,CLSL45,DEP20)
   SF2AL(IADD) = (DEP19 * AWINGS + DEP20) * SREF
   IF (IADD,EO,2) GO TO 150
120 IADD = IADD + 1
   CALL LININT(21,1,STOWS,DEP21)
   CALL LININT(22,1,SLDS45,DEP22)
   CALL LININT(23,1,STOWS,DEP23)
   CALL LININT(24,1,SLDS45,DEP24)
   SF2AL(IADD) = (DEP21 * DEP22 * AMOSES + DEP23 * DEP24) * SREF
   IF (IADD,EO,2) GO TO 150
130 IADD = IADD + 1
   CALL LININT(25,1,STOWS,DEP25)
   CALL LININT(26,1,SLDS45,DEP26)
   CALL LININT(27,1,STOWS,DEP27)
   CALL LININT(28,1,SLDS45,DEP28)
   SF2AL(IADD) = (DEP25 * DEP26 * AWINGS + DEP27 * DEP28) * SREF
   IF (IADD,EO,2)GO TO 150
   IADD = IADD + 1
   CALL LININT(29,1,CLSL45,DEP29)
   CALL LININT(30,1,CLSL45,DEP30)
   SF2AL(IADD) = (DEP29 * AWINGS + DEP30) * SREF
150 CONTINUE
   XDELTA = SF2AL(1) * (DUM1 - DEP10L) /
        (DEP18H - DEP10L) + (SF2AL(2) - SF2AL(1))

```

09/20/76 17.02.53

FTN 4.3.410

SUBROUTINE SLRAC

17.74

COT=

```

115      160 SF3ASC(MACH) = (SF3ASF + XDELTA) / SREF
120      C ****
120      C **** SF3AIP = SIDE FORCE BALU -IF-JAO INTERCEPT PREDICTION AT
120      C ****      VAO = 0.5
120      C ****
120      IDSTAP = 2
120      IF (MUN1(1), 0.5, 0.5) 125
120      CALL LIMINT(31,1,0,SL45,DEP31)
120      CALL LIMINT(32,1,0,ST0,DEP32)
120      DEP32 = DEP32 * HWDF
120      CALL LIMINT(33,1,0,SL45,DEP33)
120      CALL LIMINT(34,1,0,SL45,DEP34)
120      CALL LIMINT(35,1,0,ST0,DEP35)
120      DEP35 = DEP35 * HWDF
120      CALL LIMINT(36,1,0,SL45,DEP36)
120      SF3AIP = (DEP31 + DEP32 + DEP33) * AWMGS + DEP34 + DEP35 +
120      *      DEP36 * SLOS45 * SREF
120      C ****
120      165 CONTINUE
120      C ****
120      C **** SF3AIC(1) = SIDE FORCE BASIC AIRLOAD INTERCEPT PREDICTION AT
120      C ****      MACH = 0.5 + INTERCEPT CORRECTION AT MACH = X
120      C ****
120      XDELTA = 0.0
120      IAO = 0
120      IF (MUN1(1), 0.5, 0.5) GO TO 225
120      CALL PEAKF(38,3,0,BREAK,SL45,DEP38,DEP38H)
120      IF (DEP38, 0.0, 0.0) GO TO 255
120      IF (IBREAK-2) 208, 211, 220
120      208 IAO2 = IAO + 1
120      SF3AIP(IAO2) = 0.0
120      210 IAO = IAO + 1
120      CALL LIMINT(39,1,0,SL45,DEP39)
120      CALL LIMINT(40,1,0,SL45,DEP40)
120      SF3AIP(IAO) = (DEP39 + AWMGS + DEP40) * SLOS45 * SREF
120      IF (IAO, 0.0, 2160 TO 250
120      220 IAO = IAO + 1
120      CALL LIMINT(41,1,0,SL45,DEP41)
120      CALL LIMINT(42,1,0,ST0,DEP42)
120      DEP42 = DEP42 * HWDF
120      CALL LIMINT(43,1,0,SL45,DEP43)
120      CALL LIMINT(44,1,0,ST0,DEP44)
120      DEP44 = DEP44 * HWDF
120      SF3AIP(IAO) = (DEP41 + DEP42) * AWMGS + DEP43 + DEP44 *
120      *      SLOS45 * SREF
120      IF (IAO, 0.0, 2160 TO 250
120      230 IAO = IAO + 1
120      CALL LIMINT(45,1,0,SL45,DEP45)
120      CALL LIMINT(46,1,0,SL45,DEP46)
120      SF3AIP(IAO) = (DEP45 + AWMGS + DEP46) * SLOS45 * SREF
120      CONTINUE
120      XDELTA = SF3AIP(1) + (MUN1 - DEP38) /
120      *      (DEP38 + DEP39) + (SF3AIP(2) - SF3AIP(1))
120      255 SF3AIC(MACH) = (SF3AIP + XDELTA) / SREF
120      IF (ICALSG(1), 0.0, 0.0 TO 20000
120      C ****
120      C **** INCREMENTAL AIRCRAFT YAW
120      C ****

```

```
SLBROUTINE  SIUFRC  74774  OPT=1
```

```

C ***** SEVSP2(*)=INCREMENTAL SIDE FORCE YAW SLOPE PREDICTION
C ***** AT MACH = X (+BS)
C ***** SFVSPH(*)=INCREMENTAL SIDE FORCE YAW SLOPE PREDICTION
C ***** AT MACH = X (-BS)
C *****
C *****
175 IDSTAR = 3
180 CALL LININT(49,1,4LE3SL,DEP49)
185 ISTAR(4,IMACH) = ISTAR(3,IMACH)
190 DO 420 I=1,2
195 IDSTAR = 2 + I
200 CALL LININT(47,1,DU41,DEP47)
205 IF(I.EQ.1)NG = -48
210 IF(I.EQ.2)NG = +48
215 IF(DUM1.GT.0.7)GO TO 270
220 CALL LININT(NG,1,ANUPH,DEP49)
225 GO TO 370
230 IF(DUM1.GE.0.9)GO TO 280
235 CALL THOD(NG,1,2,0.7,0.6,ANUPH,DEP49)
240 GO TO 370
245 IF(DUM1.GT.0.9)GO TO 290
250 CALL LININT(NG,2,ANUPH,DEP49)
255 GO TO 370
260 IF(DUM1.GE.1.05 ) GO TO 300
265 CALL THOD(NG,2,3,0.3,1.05,ANUPH,DEP49)
270 GO TO 370
275 IF(DUM1.NE.1.05)GO TO 310
280 CALL LININT(NG,3,ANUPH,DEP49)
285 GO TO 370
290 IF(DUM1.GE.1.2 ) GO TO 320
295 CALL THOD(NG,3,4,1.05,1.2,ANUPH,DEP49)
300 GO TO 370
305 IF(DUM1.NE.1.2)GO TO 330
310 CALL LININT(NG,4,ANUPH,DEP49)
315 GO TO 370
320 IF(DUM1.GE.1.6) GO TO 340
325 CALL THOD(NG,4,5,1.20,1.6,ANUPH,DEP49)
330 GO TO 370
335 CALL LININT(NG,5,ANUPH,DEP49)
340 CONTINUE
345 DE748 = DEP49 + HWDIF
350 CALL LININT(50,1,DU41,DEP50)
355 XDELTA = (DEP47 + DEP48 + DEP49)*DEP50
360 IF(I.EQ.1)SFVSPH(IMACH) = XDELTA / SREF
365 IF(I.EQ.2)SFVSPH(IMACH) = XDELTA / SREF
370 SFVIPP(*) = INCREMENTAL SIDE FORCE YAW INTERCEPT
375 PREDICTION AT MACH = X (+BS)
380 SFVIPP(*) = INCREMENTAL SIDE FORCE YAW INTERCEPT
385 PREDICTION AT MACH = X (-BS)
390 IDSTAR = 4 + I
395 CALL LININT(51,1,DU41,DEP51)
400 CALL LININT(52,1,DU41,DEP52)
405 IF(I.EQ.1)GO TO 425
410 NG = 53
415 IF(DUM1.GT.0.9)GO TO 390

```

39/20/76 17.02.53

FRN 4.5+413

SUBROUTINE SLOFRC 7.774 OPT=1

```

230 CALL LININT(NG,1,ANJPM,DEP53)
    GO TO 333
303 IF (JUM1.EQ.1.05) GO TO 400
    CALL TMOB(NG,1,2,0.3,1.05,ANJPM,DEP53)
    GO TO 500
400 IF (JUM1.GT.1.05) GO TO 410
    CALL LININT(NG,2,ANJPM,DEP53)
    GO TO 500
410 IF (JUM1.EQ.1.2) GO TO 420
    CALL TMOB(NG,2,3,1.05,1.2,ANJPM,DEP53)
    GO TO 500
420 IF (JUM1.GT.1.2) GO TO 470
    CALL LININT(NG,3,ANJPM,DEP53)
    GO TO 500
425 NG = 723
    IF (JUM1.GT.0.7) GO TO 430
    CALL LININT(NG,2,ANJPM,DEP53)
    GO TO 500
430 IF (JUM1.EQ.0.9) GO TO 440
    CALL TMOB(NG,1,2,0.7,0.9,ANJPM,DEP53)
    GO TO 500
440 IF (JUM1.GT.0.9) GO TO 450
    CALL LININT(NG,2,ANJPM,DEP53)
    GO TO 500
450 IF (JUM1.EQ.1.05) GO TO 460
    CALL TMOB(NG,2,3,0.3,1.05,ANJPM,DEP53)
    GO TO 500
460 IF (JUM1.GT.1.2) GO TO 470
    CALL LININT(NG,3,ANJPM,DEP53)
    GO TO 500
470 IF (JUM1.EQ.1.6) GO TO 480
    CALL TMOB(NG,3,4,1.2,1.6,ANJPM,DEP53)
    GO TO 500
480 CALL LININT(NG,4,ANJPM,DEP53)
500 CONTINUE
DEF53 = DEP53 + JMOIF
XDELTA = DEP53 + ADJSES + JEP52 + DE053
IF (L.EQ.1) SFYIPM(IACH) = XDELTA / SREF
IF (L.EQ.2) SFYIPP(IACH) = XDELTA / SREF
490 CONTINUE
IF (DINTFI.EQ.0.0) DINTFO.EQ.0.0) GO TO 20000
XIND56 = STOREL / (SLDS45 + SLDS45 + CLOCAL)
DO 575 I=IBEGN,IEND
C *****
C ***** SFLASP(*) = SIDE FORCE INCREMENT ADJACENT STORE SLOPE
C ***** PREDICTION
C *****
    IOSTAP = 7
    IF (L.EQ.1) SLP55 = DINTFC + (XINTFO + 200.0) / (STORED + YINTFO)
    IF (L.EQ.2) SLP55 = DINTFI + (XINTFI + 200.0) / (STOREJ + YINTFI)
    CALL LININT(55,1,0,1,1,055)
    SFLASP(IACH) = SFLASP(IACH) + JEP55 + SLP55
C *****
C ***** SFLAIP(*) = ADJACENT SLOPE INTERCEPT PREDICTION
C *****
    IOSTAR = 8
    IEND = 1

```

SUBROUTINE SIDFRG 74/74 OPT=1

```

      IF(I.EQ.1)IND = - 1
      NG = 56 * IND
      XIND56 = STOREL / (SLOS45 * SLOS45 * CLOCAL)
      IF(QUH1.GT.0.7) GO TO 510
      CALL LININT(NG,1,XIND56,DEP56)
      CALL LININT(NG+IND,1,CLS45,DEP57)
      CALL LININT(NG+IND+IND,1,CLS45,DEP58)
      GO TO 570
510 IF(QUH1.GE.0.9)GO TO 520
      CALL THOD(NG,1,2,0.7,0.9,ANUPH,DEP56)
      CALL THOD(NG+IND,1,2,0.7,0.9,CLS45,DEP57)
      CALL THOD(NG+IND+IND,1,2,0.7,0.9,CLS45,DEP58)
      GO TO 570
520 IF(QUH1.GT.0.9)GO TO 530
      CALL LININT(NG,2,XIND56,DEP56)
      CALL LININT(NG+IND,2,CLS45,DEP57)
      CALL LININT(NG+IND+IND,2,CLS45,DEP58)
      GO TO 570
530 IF(QUH1.GE.1.2)GO TO 540
      CALL THOD(NG,2,3,0.3,1.2,XIND56,DEP56)
      CALL THOD(NG+IND,2,3,0.3,1.2,CLS45,DEP57)
      CALL THOD(NG+IND+IND,2,3,0.3,1.2,CLS45,DEP58)
      GO TO 570
540 IF(QUH1.GT.1.2)GO TO 550
      CALL LININT(NG,3,XIND56,DEP56)
      CALL LININT(NG+IND,3,CLS45,DEP57)
      CALL LININT(NG+IND+IND,3,CLS45,DEP58)
      GO TO 570
550 IF(QUH1.GE.1.6) GO TO 560
      CALL THOD(NG,3,4,1.2,1.6,XIND56,DEP56)
      CALL THOD(NG+IND,3,4,1.2,1.6,CLS45,DEP57)
      CALL THOD(NG+IND+IND,3,4,1.2,1.6,CLS45,DEP58)
      GO TO 570
560 CALL LININT(NG,4,XIND56,DEP56)
      CALL LININT(NG+IND,4,CLS45,DEP57)
      CALL LININT(NG+IND+IND,4,CLS45,DEP58)
570 CONTINUE
      AKING1 = DEP57 * STOREL / CLOCAL + DEP58
      IF(I.EQ.1)QUH1 = QINTFC * XINTFO / YINTFC
      IF(I.EQ.2)QUH1 = YINTFI * XINTFI / YINTFI
      SFAIP(IMACH) = SFAIP(IMACH) + DEP56 * JUMP1 / STORED + -KING1
575 CONTINUE
      SFAIP(IMACH) = SFAIP(IMACH) / SREF
      SFAIP(IMACH) = SFAIP(IMACH) / SREF
20000 RETURN
      END

```

```

1  SUBROUTINE YAHOM
2  .....
3  YAHING MORENT
4  BASIC ATPLCAT
5  YHASP = SLOPE PREDICTION AT MACH = 3.5
6  YHASC(*) = YHASP + SLOPE CORRECTION AT MACH=X
7  YHAIIP = INTERCEPT PREDICTION AT MACH = 3.5
8  YHAIIC(*) = YHAIIP + INTERCEPT CORRECTION AT MACH=X
9  INCREMENT-ADJACENT YAW
10 YHYSRP = SLOPE PREDICTION AT MACH = 0.5 (-3S)
11 YHYSRH = SLOPE PREDICTION AT MACH = 0.5 (-3S)
12 YHYSRP(*) = YHYSRP + SLOPE CORRECTION MACH = X (-3S)
13 YHYSRH(*) = YHYSRH + SLOPE CORRECTION MACH = X (-3S)
14 YHYSIP = INTERCEPT PREDICTION AT MACH=0.5 (-3S)
15 YHYSIH = INTERCEPT PREDICTION AT MACH=0.5 (-3S)
16 YHYSIP(*) = YHYSIP + INTERCEPT CORRECTION MACH=X (-3S)
17 YHYSIH(*) = YHYSIH + INTERCEPT CORRECTION MACH=X (-3S)
18 INCREMENT-ADJACENT STORE INTERFERENCE
19 YHIASP(*) = SLOPE PREDICTION
20 YHIAIP = INTERCEPT PREDICTION AT MACH = 0.5
21 YHIAIC(*) = YHIAIP + INTERCEPT CORRECTION MACH = X
22 .....
23 COMMON/COMING/ DUM1,IMACH,OUTY(14),INCASE,NUCASE(5,34),NUMCAS,
24 NUMCR(51),NMACH
25 COMMON/COMINP/ AKB,AKINF,AKN,AKN8,AKT9,AKW8,AKW81,
26 ALA4,ALAFIN(5),ALINF1,ALINFO,ALINLI(5),ALOSIL,
27 DIOIS0,CLAISO,LOCAL,DINTF1,DINTFO,MACHF,
28 ICASE,ICORFG,IMAGE( 3),ISYF,ITITLE(36),
29 YS-G(4,2),NSTYPE(-0.2),PXCML,REALM(8),DESL,
30 SML,SPAT(4,2),STORED,STOREL,SUPPA,TAIPLM,
31 KINGPA,WSS,XCG,XINTFI,XINTFO,Y8IG,Y8L,
32 YINTFI,YINTFO,Y1,Y1PRM,ZOH,ZPLNSP
33 COMMON/COMENT/ KCSE(2),PREDN(2),PREP,PREYM,PYHOFH(40),
34 XH0Y4(40),XH0H(40)
35 COMMON/COMSET/ AOPSL,AKCPH,AKCYN,AKNUSE(2),AKTAIN(2),
36 AKWING(2),ALEDSL,ALEL,NUPP,AREASP(4,2),
37 GDCL45,CLDC45,CLSL45,OVALUL(2),IFBGN,ICALSG(7),
38 IDSY4,IEND,IMACH1,PPAUFH,PEAXC,SADJSP(4,2),SHDAF1,
39 SLOSXF,SLOS45,SPADJS(2),SPATSP(2),SPEF,
40 SRTSID,STLOC,STROWS,YOSTD
41 COMMON/COMYAH/ YHASP,YHASC(7),YHAIIP,YHAIIC(7),YHYSRP,
42 YHYSRH,YHYSIP(7),YHYSIH(7),YHIASP(7),YHIAIP,YHIAIC(7),
43 YHISM(7),YHISMIC(7),YHIBREK(7)
44 COMMON/COMHAC/ XLIVD
45 COMMON/REMOV2/ ICALSR(7),IFIND,IMPURA(7),IFPNT
46 COMMON/COMSTR/ ISTARS(46,7),TOSTAR
47 COMMON/COMSTU/ SFBASP,SFBASC(7),SFBATP,SFBAIC(7),SFYSF(7),
48 SFYSIP(7),SFYIP(7),SFYIPM(7),SFZASP(7),SFZAIIP(7)
49 DIMENSION YH0AX(2),YH0AI(2),YH0JCP(2),YH0SIP(2),YH0AIC(2)
50 YHASC(IPACH) = 0.0
51 YHAIIC(IMACH) = 0.0
52 YHYSRP(IMACH) = 0.0
53 YHYSRH(IMACH) = 0.0
54 YHYSIP(IMACH) = 0.0
55 YHYSIH(IMACH) = 0.0
56 YHIASP(IMACH) = 0.0
57 YHIAIP(IMACH) = 0.0

```





09/20/76 17-02-53

FTN 4.5+413

74774 CPT21

SUBROUTINE YAWMOM

```

115 CALL LININT(72,1,AWP,CEP72)
    CEP72 = DEP72 + 1.34E
    CALL LININT(73,1,CLSL45,DEP73)
    CALL LININT(74,1,AWMOM,CEP74)
    DEP74 = CEP74 + 1.47E
    YMAIP = ((CEP71 + CEP72) * ALEL + CEP73 + CEP74) * SLCS45
120 145 CONTINUE
    C *** YMAIC(*) = YAWING MOMENT BASIC AIRLOAD INTERCEPT MACH NUMBER
    C *** CORRECTION
    C *** YMAI(*) = INTERCEPT MACH NUMBER INCREMENTAL CHANGE
    IADJ = 1
    XDELTA = 0.0
    IF (JUM1.EQ.0.5) GO TO 180
    CALL BSEAKF(76,3,JUMF,CLSL45,DEP76L,DEP76H)
    IF (DEP76L.LT.0.0) GO TO 180
    IF (JUMF.EQ.1.0) GO TO 175
    IADJ = IADJ + 1
    YMAI(IADJ) = 0.0
    JUMP = JUMP + 1
    GO = 73 + 3 * (JUMP - 1) + 1
    IADJ = IADJ + 1
    CALL LININT(80,1,CLSL45,DEP81)
    CALL LININT(80,1,CLSL45,DEP82)
    YMAI(IADJ) = (DEP81 * ALEL + DEP82) * SLCS45
    IF (IADJ.EQ.2) GO TO 177
    IADJ = IADJ + 1
    CALL LININT(79,1,CLSL45,DEP79)
    CALL LININT(80,1,CLSL45,DEP80)
    DEP80 = DEP80 + 1.47E
    CALL LININT(81,1,CLSL45,DEP81)
    CALL LININT(82,1,CLSL45,DEP82)
    DEP82 = DEP82 + 1.47E
    YMAI(IADJ) = ((DEP79 + DEP80) * ALEL + DEP81 + DEP82) * SLCS45
    JUMP = JUMP + 1
    IF (IADJ.LT.2) GO TO 170
177 XDELTA = YMAI(1) * (CUM1 - DEP76L) / (DEP76H - DEP76L) +
    * YMAI(2) - YMAI(1)
    YMAI(IADJ) = (YMAIP + XDELTA) / SRTSTC
180 YMAIC(IMACH) = (YMAIP + XDELTA) / SRTSTC
C ***
C *** YAWING MOMENT MODIFICATION FOR INTERMEDIATE WING LOCATIONS
C ***
    IF (CUM1.GT.1.2-0.2*WMP) GO TO 187
    IOSTAR = 45
    ALPOSF = 1
    YMAIC(IMACH) / YMAIC(IMACH)
    IF (CUM1.GT.0.9) GO TO 181
    IF (CUM1.EQ.0.9) GO TO 186
    GO TO 186
181 IF (CUM1.EQ.1.05) GO TO 182
    CALL YMAI(910,3,4,1,0.05,ALPOSF,7,0,10)
    GO TO 186
182 IF (CUM1.GT.1.05) GO TO 183
    CALL LININT(910,4,ALPOSF,DEP910)
    GO TO 186
183 IF (CUM1.EQ.1.2) GO TO 184
    CALL YMAI(910,4,5,1,0.2,ALPOSF,DEP910)
    GO TO 186
184 CALL LININT(910,5,ALPOSF,DEP910)

```

SUBROUTINE YAKHON 74/74 OPT=1

```

185 CONTINUE
CALL LININT(911,1,ALPOST,DEP911)
IF(ALELE-82.0)GO TO 188
CALL LININT(915,1,0UM1,DEF915)
GO TO 191
188 IF(AREAH/STOREL*(F.5.0)GO TO 189
CALL LININT(915,2,0UM1,DEF915)
GO TO 191
189 CALL LININT(915,3,0UM1,DEF915)
191 CONTINUE
YMBKEX(IMACH) = DEP910 + DEP915 + H*DH* * (DEP911 - DEP910)
CALL LININT(913,1,0UM1,DEF912)
CALL LININT(913,1,0UM1,DEF913)
DEP914 = ALNLOC(914,0.5,0.9,0.2,ANUPM)
YMBSC(IMACH) = (DEP912 + CLSL45 + DEP913) * SRISTD + HMDH*DEF914
YMBSC(IMACH) = YMBASC(IMACH) / SRISTD
YMBIC(IMACH) = (YMBASC(IMACH) - YMBASC(IMACH)) + YMBKEX(IMACH) +
YMBIC(IMACH)
ISTARS(46,IMACH) = ISTARS(45,IMACH)
187 CONTINUE
C *** INCREMENT AIRCRAFT YAW
DO 245 I=1,2
C *** YHYSPP = YAWING MOMENT INCREMENT-AIRCRAFT YAW SLOPE (+3S)
C *** PREDICTION
C *** YHYSPP = YAWING MOMENT INCREMENT-AIRCRAFT YAW SLOPE (-3S)
C *** PREDICTION
IDSTAR = 10 + I
DUMY3 = ANOSES + ALEL / STOREL
IF(0UM1-CT.0.5)GO TO 185
CALL LININT(915,1,CLSL45,DEP85)
CALL LININT(916,1,ANUPM,DEF85)
DEP86 = DEF86 + HMDH*
CALL LININT(917,1,CLSL45,DEP87)
CALL LININT(918,1,ANUPM,DEP88)
DEP89 = DEP88 + HMDH*
XDELTA = ((DEP85 + DEP86) * DUMY3 + DEP87 + DEP88) * SRISTD
IF(I.EQ.1) YHYSPP = XDELTA
IF(I.EQ.2) YHYSPP = XDELTA
185 CONTINUE
C *** YHYSOP(*) = YAWING MOMENT INCREMENTAL AIRCRAFT YAW SLOPE (+3S)
C *** MACH NUMBER CORRECTION
C *** YHYSOM(*) = YAWING MOMENT INCREMENTAL AIRCRAFT YAW SLOPE (-3S)
C *** MACH NUMBER CORRECTION
NG = 92- I
IAUO = 0
XDELTA = 0.0
IF(0UM1-EG.0.5)GO TO 215
CALL BREAKING,2,JUMP,CLSL45,DEPYL,DEPYH
IF(DEPY-1.5.0)GO TO 215
IF(JUMP-2)190,193,195
190 IAUO = IAUO + 1
YHOSCP(IAUO) = 9.0
193 IAUO = IAUO + 1
CALL LININT(92,1,CLSL45,DEP32)
CALL LININT(93,1,1JPM,DEP93)
DEP93 = DEP93 + HMDH*
CALL LININT(94,1,CLSL45,DEP94)

```

09/20/76 17.02.53

FTN 4.5+410

SUBROUTINE YAMMUN 76/76 OPT=1

```

231 CALL LINIT(95,I,ALU4,DEF95)
    DEP95 = DEP95 * HWHF
    YMOSCP(IADD) = ((DEP92 + DEP93) * DUMY3 + DEP94 + DEP95) * SRISTD
    IF(IADD.EQ.2)GO TO 210
195 IADJ = IADD + 1
    CALL LINIT(95,I,CLSL45,DEF95)
    CALL LINIT(97,I,ANUPM,DEF97)
    DEP97 = DEP97 * HWHF
    CALL LINIT(99,I,CLSL45,DEF99)
    CALL LINIT(99,I,ANUPM,DEF99)
    DEP99 = DEP99 * HWHF
    YMOSCP(IADD) = ((DEP96 + DEP97) * DUMY3 + CEP98 + DEP99) * SRISTD
    IF(IADD.EQ.2)GO TO 210
240
C
    YMOSCP(2) = YMOSCP(1)
    XDELTA = YMOSCP(1) + (DUM1 - DEPYL) / (DEPYH + DEPYL)
210 XDELTA = YMOSCP(1) + YMOSCP(1)
    (YMOSCP(2) - YMOSCP(1))
245 IF(1.EQ.1) YMOSCP(IADJ) = (YMYSPM + XDELTA) / SRISTD
    IF(1.EQ.2) YMOSCP(IADJ) = (YMYSPM + XDELTA) / SRISTD
    YMYTYP = YAMING MOMENT INCREMENTAL-AIRCRAFT YAM INTERCEPT
    PREDICTION
    YMYTP4 = YAMING MOMENT INCREMENTAL-AIRCRAFT YAM INTERCEPT
    PREDICTION
250 IDSTAR = 12 + I
    IF(DUM1.GT.0.5) GO TO 217
    CALL LINIT(100,I,CLSL45,DEP100)
    CALL LINIT(101,I,ANUPM,DEP101)
    DEP101 = DEP101 * HWHF
    CALL LINIT(102,I,CLSL45,DEP102)
    CALL LINIT(103,I,ANUPM,DEP103)
    DEP103 = DEP103 * HWHF
    XDELTA = ((DEP100 + DEP101) * DUMY3 + DEP102 + DEP103) * SRISTD
    IF(1.EQ.1) YMYTYP = XDELTA
    IF(1.EQ.2) YMYTYP = XDELTA
217 CONTINUE
    YMYICP(*) = YAMING MOMENT INCREMENTAL-AIRCRAFT YAM INTERCEPT
    MACH NUMBER CORRECTION
    YMYICM(*) = YAMING MOMENT INCREMENTAL-AIRCRAFT YAM INTERCEPT
    MACH NUMBER CORRECTION
265 NG = 107 - I
    XDELTA = 0.0
    IF(DUM1.EQ.0.5)GO TO 240
    IADJ = 0
    CALL BREAKPING,2,JH4P,CLSL45,DEPYL,DEPYH
    IF(DEPYL.LT.0.0) GO TO 240
    IF(JUMP=2)230,233,235
230 IADJ = IADD + 1
    YMOSCP(IADJ) = 0.0
233 IADD = IADD + 1
    CALL LINIT(107,I,CLSL45,DEP107)
    CALL LINIT(109,I,ANUPM,DEP109)
    DEP109 = DEP109 * HWHF
    CALL LINIT(109,I,CLSL45,DEP109)
    CALL LINIT(110,I,ANUPM,DEP110)
    DEP110 = DEP110 * HWHF
    YMOSCP(IADJ) = ((DEP107 + DEP109) * DUMY3 + DEP109 + DEP110) *
    SRISTD
285

```



SUBROUTINE YAK'OM 7-7/74 OPT=1

```

345      IF (I, EQ, 2) DUMY3 = DINTFI * XINTFI / STORED
          CUMV4 = ADEL * INQ3IS / STOREL
          IF (JUMP, 2) 247, 250, 255
247      IQJ = IQJ + 1
          YHQAIC(IQJ) = 3.0
250      IQJ = IQJ + 1
          CALL LININT(121, I, CLSL45, DEP121)
          CALL LININT(122, I, CLSL45, DEP122)
          CALL LININT(123, I, CLSL45, DEP123)
          CALL LININT(124, I, CLSL45, DEP124)
          YHQAIC(IQJ) = ((DEP121 * DUMY4 + DEP122) * DUMY3 + (DEP123 * DUMY4 +
          * DEP124)) * SLOSRF * STOREC
355      IF (IAJ, EQ, 2) 160 TO 260
          IAQ = IAQ + 1
255      CALL LININT(125, I, CLSL45, DEP125)
          CALL LININT(126, I, CLSL45, DEP126)
          CALL LININT(127, I, CLSL45, DEP127)
          CALL LININT(128, I, CLSL45, DEP128)
          YHQAIC(IAQ) = ((DEP125 * DUMY4 + DEP126) * DUMY3 + (DEP127 *
          * DEP128) * SLOSRF * STOREC
360      IF (IARD, EQ, 2) 160 TO 260
          YHQAIC(2) = YHQAIC(1)
          XDELTA = YHQAIC(1) + (LUM1 - DEPYL) / (JFPYH - DEPYL) *
          * YHQAIC(2) + YHQAIC(1)
265      YMTAIC(IMACH) = YHQAIC(IMACH) + XDELTA
300      CONTINUE
          YMTAIC(IMACH) = (YMTAIC(IMACH) + YMTAIF) / SRISID
20000      CONTINUE
370      END

```

09/20/76 17.02.53

FTN 4.54410

74/74 OPT=1

```

1 SUBROUTINE NORFERC
2
3     NORMAL FORCE
4     BASIC AIRLOAD
5     ANBASP = SLOPE PREDICTION MACH = 0.5
6     ANBASC(*) = ANBASF + SLOPE CORRECTION MACH=X
7     ANBAIP = INTERCEPT PREDICTION MACH = 0.5
8     ANBAIC(*) = ANBAIF + INTERCEPT CORRECTION MACH=X
9
10    INCREMENT-AIRCRAFT YAW
11    ANYSFF = SLOPE PREDICTION MACH = 0.5
12    ANYSPH = SLOPE PREDICTION MACH = 0.5
13    ANYSCF(*) = ANYSPF + SLOPE CORRECTION MACH=X
14    ANYSCM(*) = ANYSPF + SLOPE CORRECTION MACH=X
15    ANYIFF = INTERCEPT PREDICTION MACH = 0.5
16    ANYICF(*) = ANYIFF + INTERCEPT CORRECTION MACH=X
17    ANYICH(*) = ANYIPT + INTERCEPT CORRECTION MACH=X
18    INCREMENT-ADJACENT STORE INTERFERENCE
19    ANIASP(*) = SLOPE PREDICTION
20    ANIASC(*) = SLOPE MACH NUMBER CORRECTION
21    ANIAP(*) = INTERCEPT PREDICTION
22    ANIAC(*) = INTERCEPT MACH NUMBER CORRECTION
23    ANOSEL = STORE NOSE LENGTH
24    YBIG = DISTANCE FROM THE FUSELAGE TO THE WING
25    TIP FOR HIGH-WING AIRCRAFT
26    ADPNXC = ADJUSTED IFF FROM X/C = 1.1 TO X/C = 1.0
27    ANFABN(*) = UPPER AND LOWER BREAK MACH NUMBER
28    CORRECTION FOR INCREMENT YAW SLOPE MACH
29    NUMBER CORRECTION
30    PPAUFH = THAT PART OF THE ADJUSTED PLAN PROJECTED
31    AREA FORWARD OF THE WING LEADING EDGE
32    ANFABI(*) = UPPER AND LOWER BREAK MACH NUMBER
33    CORRECTION FOR INCREMENT YAW INTERCEPT
34    MACH NUMBERS
35    ANFABS(*) = UPPER AND LOWER BREAK MACH NUMBER
36    CORRECTION FOR INCREMENT-ADJACENT STORE
37    SLOPE MACH NUMBER CORRECTION
38    ANFAIX(*) = UPPER AND LOWER BREAK MACH NUMBER
39    CORRECTION FOR INCREMENT-ADJACENT STORE
40    INTERCEPT MACH NUMBER CORRECTION
41
42    COMMON/CONSET/ ADFSL,AKCFH,AKCYH,AKNOSE(2),AKTAIL(2),
43    AKWIG(2),ALEDSL,ALEL,ANUPP,AREASP(4,2),
44    CDC45,CLDC45,CLSL45,DVALJF(2),IBEGN,ICALSG(7),
45    TOSY4,IERO,IMACH1,PPAJFW,PPAXC,SADJSP(4,2),SHDAF1,
46    SLSRF,SLJS45,SPADJS(2),SPATSP(2),SPREF,
47    SRSTD,STLOCL,STPDWS,YDSTO
48
49    COMMON/CONNOP/ANBASP,ANBASC(7),ANBAIP,ANBAIC(7),ANYSPP,
50    ANYSCP(7),ANYSCM(7),ANYIPP,ANYIPH,
51    ANYICP(7),ANYICH(7),ANIASP,ANIASC(7),ANIAP,
52    ANIAC(7)
53
54    COMMON/CONINF/ AKM4AK1,IF,AKN,AKN8,AKTB,AKW8,AKWBI,
55    ALAND,ALAFIN(5),ALINF1,ALINF3,ALINLT(5),ANUSL,
56    CDOISO,CLATSO,CLCAL,GINFI,GINF3,HWHCF,
57    ICASE,ICCNFG,IMAGE(9),ISYM,ITILE(36),
58    YSEG(40,2),NSTYPE(40,2),PXCNLM,REALM(9),SEGL,
59    SYL,SPAT(40,2),STORED,STOREL,SUMFA,TAILEA,

```



```

115 IDSTAP = 18
    IF(JUM1.GT.0.5) GO TO 142
    CALL LININT(138,1,CLOC45,DEP138)
    CALL LININT(139,1,ZPH,DEP139)
    CALL LININT(140,1,PXOCHL,DEP140)
    CALL LININT(141,1,SREF,DEP141)
    ANSAIF = SREF * (DEP138 - 0.0109 * CLOC45 * ALEL + DEP139 +
    * DEP140 * DEP141)

120 142 CONTINUE
    ***** ANJAIC(*) = NORMAL FORCE BASIC AIRLOAD INTERCEPT MACH NUMBER
    ***** CORRECTION
    XDELTA = 0.0
    IF(JUM1.LE.DEP134) GO TO 143
    CALL LININT(144,1,Y1YBC,DEP144)
    XI142 = SAOJS(1.2) / (SREF * CLOC45 * CLOC45) -
    * DEP144 * PAXC / SREF
    CALL LININT(142,1,XI142,DEP142)
    CALL LININT(143,1,ALNDSL,DEP143)
    CALL LININT(145,1,STOWMS,DEP145)
    XDELTA = SREF * DEP142 * (JUM1 - DEP145 * DEP134) / DEP143
    ANBAIC(IMACH) = (ANSAIF + XDELTA) / SREF

135 143 *****
    ***** INCREMENTAL - AIRCRAFT YAW
    *****
    C *****
    C ***** ANYSEP = NORMAL FORCE INCREMENTAL- AIRCRAFT YAW SLOPE (+BS)
    C ***** PREDICTION
    C ***** ANYSPH = NORMAL FORCE INCREMENTAL- AIRCRAFT YAW SLOPE (-BS)
    C ***** PREDICTION
    DO 218 J=1,2
    IDSTAR = 18 + J
    IF(JUM1.GT.0.5) GO TO 144
    XDELTA = 0.0
    CALL LININT(146,J,CJCL45,DEP146)
    CALL LININT(147,J,ANUPN,DEP147)
    DEP147 = DEP147 * H4DHF
    CALL LININT(148,J,CJCL45,DEP148)
    CALL LININT(149,J,ANUPN,DEP149)
    DEP149 = DEP149 * H4DHF
    XDELTA = (DEP146 + DEP147) * ALEL + DEP148 * DEP149 * SP.F
    IF(J.EQ.1) ANYSPH = XDELTA
    IF(J.EQ.2) ANYSEP = XDELTA

140 144 CONTINUE
    ***** ANYSCF(*) = NORMAL FORCE INCREMENTAL-AIRCRAFT YAW SLOPE
    ***** MACH NUMBER CORRECTION (+BS)
    C ***** ANYSCH(*) = NORMAL FORCE INCREMENTAL-AIRCRAFT YAW SLOPE
    ***** MACH NUMBER CORRECTION (-BS)
    XDELTA = 0.0
    IAJJ = 0
    IF(JUM1.EQ.0.5) GO TO 140

145 NLINES = 5 + J
    NG = 153 - J
    CALL BREAKF(NG,NLINES,JU4P,CJCL45,DEPYLO,DEPYHI)
    IF(DEPYLO.LT.0.0) GO TO 140
    IF(JUMP.NE.1) GO TO 145
    JUMP = JUMP + 1
    JUMP21 = JUMP

```



09/20/76 17.02.53

FTN 4.5+413

SUBROUTINE NUFFRC 74/74 Q3T=1

```

175 IADD = IADD + 1
    ANFABN(IADD) = J.
    GO TO 150
145 JUMPP1 = JUMP + 1
150 DO 155 I=JUMP, JUMP+1
    IF (I.GT. (N(LINES+1)) ANFABN(2) = ANFABN(1)
    IF (I.GT. (N(LINES+1))) GO TO 165
    NG = 153 + 4 * (I-2)
    CALL LIMINT(NG, J, C0CL45, DEPY1)
    IADD = IADD + 1
    CALL LIMINT(NG+1, J, ANUPH, DEPY2)
    DEPY2 = DEPY2 * HW04F
    CALL LIMINT(NG+2, J, C0CL45, DEPY3)
    CALL LIMINT(NG+3, J, ANUPH, DEPY4)
    DEPY4 = DEPY4 * HW04F
    ANFABN(IADD) = ((DEPY1 + DEPY2) * JPD0SL + DEPY3 + DEPY4) * SREF
155 CONTINUE
165 XDELTA = ANFABN(1) + (GLM1 - DEPYLO) / (JEPYHI - DEPYLO) *
    * (ANFABN(2) - ANFABN(1))
180 IF (J.EQ.1) ANYSCH(IYACH) = (ANYSPH + XDELTA) / SREF
    IF (J.EQ.2) ANYSC(IYACH) = (ANYSPF + XDELTA) / SREF
C **** ANYIPP = NORMAL FORCE INCREMENTAL-AIRCRAFT YAW INTERCEPT
C **** PREDICTION
C **** ANYIP4 = NORMAL FORCE INCREMENTAL-AIRCRAFT YAW INTERCEPT
C **** PREDICTION
    IOSTAP = 20 + J
    IF (JUM1.GT.0.5) GO TO 182
    CALL LIMINT(169, J, C0CL45, DEP169)
    CALL LIMINT(170, J, STFDMS, DEP170)
    CALL LIMINT(171, J, ANUPH, DEP171)
    DEP171 = DEP171 * HW04F
    CALL LIMINT(172, J, C0CL45, DEP172)
    CALL LIMINT(173, J, STFDMS, DEP173)
    CALL LIMINT(174, J, ANUPH, DEP174)
    DEP174 = DEP174 * HW04F
    XDELTA = ((DEP159 + DEP170 + DEP171) * ALCL + DEP172 + DEP173 +
    * DEP174) * SREF
    IF (J.EQ.1) ANYIP4 = XDELTA
    IF (J.EQ.2) ANYIPP = XDELTA
182 CONTINUE
C **** ANYICP(+) = NORMAL FORCE INCREMENTAL-AIRCRAFT YAW INTERCEPT
C **** MACH NUMBER CORRECTION
C **** ANYICM(+) = NORMAL FORCE INCREMENTAL-AIRCRAFT YAW INTERCEPT
C **** MACH NUMBER CORRECTION
    IAJD = 0
    NG = 173 + J
    XDELTA = 0.0
    IF (JUM1.EQ.0.5) GO TO 200
    CALL BREAK(NG, N(LINES, JUMP, C0CL45, DEPYLO, DEPYH1)
    IF (DEPYLO.LT.0.0) GO TO 220
    IF (JUMP.NE.1) GO TO 183
    JUMP = JUMP + 1
    JUMPP1 = JUMP
    IADD = IADD + 1
    ANFABN(IADD) = 0.0
    GO TO 185
183 JUMPP1 = JUMP + 1

```



09/20/76 17.02.53

FIN 4.5+410

QFT=1

74/74

SUBROUTINE NURFR

CALL NURSB1(J,JMP,204,DEPY1A,DEPY2A,XCELTA)

270 ANIASC(IPACH) = ANIASC(IPACH) + XCELTA

300 CONTINUE

ANIASC(IPACH) = (ANIASC(IPACH) + ANIASP) / SREF

ANIASC(IPACH) = (ANIASC(IPACH) + ANIAP) / SREF

20000 RETURN

END

290

09/20/76 17.02.53

FTN 4,5+410

```

1  SUBROUTINE NORSB1(J,JUMF,NGRPH,DEP1,DEP2,XDELTA)
2  *
3  * THIS ROUTINE CALCULATES THE INCREMENTAL ADJACENT T
4  * STORE INTERFERENCE MACH NUMBER CORRECTION FOR 30TH SLOPE
5  * AND INTERCEPT FOR NORMAL FORCE.
6  *
7  *
8  *
9  *
10 * COMMON/COMING/ DUM1,IMACH,KROTP(14),NCASE,NCASES(5,94),NUPCAS,
11 * COMMON/COMSET/ ADPDSL,AKCFM,AKCYM,AKNGSE(2),AKTAIL(2),
12 * AKWING(2),ALEDSL,ALEL,ANUP,AREASP(4,2),
13 * CDCL45,CLCL45,CLSL45,DVALUE(2),IBEGN,ICALSG(7),
14 * IDS14,IDS10,IACHI,PPAJFW,PPAXC,SADJSP(4,2),S10A+4,
15 * SLOSRF,SLOS45,SFADJS(2),SPATSF(2),SREF,
16 * SPTSTD,STLDCL,STPDMS,YDSTD
17 *
18 * DIMENSION BREAK(2)
19 * IAD0 = 0
20 IF(JUMF.NE.1)GO TO 100
21 JUMF = JUMF + 1
22 JUMPP1 = JUMF
23 IAD0 = IAD0 + 1
24 BREAK(IAD0) = 0.0
25 GO TO 110
26
27 JUMPP1 = JUMF + 1
28 DO 120 I=JUMF,JUMPP1
29 IF(I.GT.4)BREAK(2) = BREAK(1)
30 IF(I.GT.4)GO TO 130
31 NG = NGRPH + 2*(I-2)
32 CALL LIMIT(NG,J,CDCL45,DEPY3)
33 CALL LIMIT(NG+1,J,CDCL45,DEPY4)
34 IAD0 = IAD0 + 1
35 AKSLP1 = DEPY3 + ADPDSL + DEPY4
36 BREAK(IAD0) = AKSLP1 + CVALUE(J) * SREF
37
38 120 CONTINUE
39 130 XDELTA = BREAK(1) + (DUM1 * DEP1) / (DEP2 + DEP1) *
40 * (BREAK(2) + BREAK(1))
41 RETURN
42 END

```

09/20/76 17.02.53

FTH 4.5+410

74/74 OUT=1

```

1  SUBROUTINE PITPM
   *
   * PITCHING MOMENT
   *
   * BASIC AIRLOAD
   *
   * P4BASP = SLOPE PREDICTION MACH = 0.5
   * P4BASC(*) = P4BASP + SLOPE CORRECTION AT MACH=X
   * P4BAIP = INTERCEPT PREDICTION MACH = 0.5
   * P4BAIC(*) = P4BAIP + INTERCEPT CORRECTION MACH=X
   *
   * INCREMENT-AIRCRAFT YAW
   *
   * P4YSP = SLOPE PREDICTION MACH = 0.5 (+BS)
   * P4YSPH = SLOPE PREDICTION MACH = 0.5 (-BS)
   * P4YSPF(*) = P4YSP + SLOPE CORRECTION MACH=X (+BS)
   * P4YSPH(*) = P4YSPF + SLOPE CORRECTION MACH=X (-BS)
   * P4YSPM(*) = P4YSPF + SLOPE CORRECTION MACH=X (+BS)
   * P4YSPH(*) = P4YSPM + SLOPE CORRECTION MACH=X (-BS)
   * P4YIP = INTERCEPT PREDICTION MACH = 0.5
   * P4YICP(*) = P4YIP + INTERCEPT CORRECTION MACH=X (+BS)
   * P4YICH(*) = P4YIP + INTERCEPT CORRECTION MACH=X (-BS)
   *
   * INCREMENT-AIRCRAFT STORE INTERFERENCE
   *
   * P4IASF = SLOPE PREDICTION MACH = 0.5
   * P4IASC(*) = P4IASF + SLOPE CORRECTION MACH=X
   * P4IAIP = INTERCEPT PREDICTION MACH = 0.5
   * P4IAIC(*) = P4IAIP + INTERCEPT CORRECTION MACH=X
   * P4IMBC(*) = ARRAY CONTAINING THE MACH BREAK POINTS FOR
   * PITCHING MOMENT BASIC AIRLOAD SLOPE MACH
   * NUM123 CORRECTION
   *
   * P4MUL(*) = ARRAY CONTAINING THE MACH BREAK POINTS FOR
   * PITCHING MOMENT BASIC AIRLOAD INTERCEPT
   * MACH NUMBER CORRECTION
   *
   * P4PHYMC(*) = ARRAY CONTAINING THE MACH BREAK POINTS FOR
   * PITCHING MOMENT INCREMENT-AIRCRAFT YAW
   * SLOPE MACH NUMBER CORRECTION
   *
   * P4PHYIC(*) = ARRAY CONTAINING THE MACH BREAK POINTS FOR
   * PITCHING MOMENT INCREMENT-AIRCRAFT YAW
   * INTERCEPT MACH NUMBER CORRECTION
   *
   * P4MYAL(*) = ARRAY CONTAINING THE MACH BREAK POINTS FOR
   * PITCHING MOMENT INCREMENT-ADJACENT STORE
   * INTERFERENCE SLOPE MACH NUMBER CORRECTION
   *
   * P4MYIAC(*) = ARRAY CONTAINING THE MACH BREAK POINTS FOR
   * PITCHING MOMENT INCREMENT-ADJACENT STORE
   * INTERFERENCE INTERCEPT MACH NUMBER
   * CORRECTION
   *
   *
   * COMMON/COMMON/ NUM1,IMACH,KRDTYP(14),NCASE,NCASES(5,94),NUMCAS,
   * UMCSO(5),NMACH
   * COMMON/COMMON/ AKCSF(2),PREDN(2),PREPH,PREYH,PYOPH(40),
   * PMOYN(40),XMOH(40)
   * COMMON/COMMON/ AKB,AKINTF,AKN,AKNB,AKTB,AKWB,AKWB1,
   * ALAHA,ALFIN(5),ALINF1,ALINFO,ALINT(5),ANUSEL,
   * CDOISD,CLAISO,CLOCAL,DINTFI,DINTFO,HDDHF,
   * LCASE,LCONFG,IMAGE( 9),LSYM,ITITLE(36),
   * NSEG(40,2),NSTYPE(49,2),PXDCML,REALH(8),SEGL,
   * SHL,SPAT(40,2),STORED,STOREL,SUNPA,TAILPA,
   * WINGPA,WSS,XCG,XINTFI,XINTFO,YBIG,YBL,
   * YINTFI,YINTFO,YI,YIPRM,ZPH,ZPLNSP
   * COMMON/COMMON/ XLINEF
   * COMMON/COMMON/ P4BASP,P4BASC(7),P4BAIP,P4BAIC(7),P4YSPF,

```



```

115 140 IADD = IADD + 1
      CALL LININT(221,1,STPOMS,DEP221)
      CALL LININT(222,1,CDCL45,DEP222)
      APBMC(IADD) = DEP222 + DEP221 * AKPOML
      IF(IADD-EO,2) GO TO 160
120 IADD = IADD + 1
      CALL LININT(223,1,STPOMS,DEP223)
      CALL LININT(224,1,CDCL45,DEP224)
      APBMC(IADD) = DEP224 + DEP223 * AKPOML
125 160 CONTINUE
      XDELTA = APBMC(1) * (DUM1 - DEPYLO)/(DEPYHI - DEPYLO) *
      * (APBMC(2) - APBMC(1))
170 PMBASC(IMACH) = (PMASIF + XDELTA) / JRTSIF
C **** PMBASP = PITCHING MOMENT BASIC AIRLOAF INTERCEPT PREDICTION
      IDSTAR = 26
      IF(DUM1-GT,0.5) GO TO 185
      CALL LININT(225,1,LOCAL,DEP225)
      CALL LININT(226,1,CDCL45,DEP226)
      PMBASP = SREF + (DEP226 + DEP225 * ALEL)
185 CONTINUE
C **** PMBASC(*) = PITCHING MOMENT BASIC AIRLOAF INTERCEPT PAUCH
C **** NUMBER CORRECTION
      IADD = 0
      XDELTA = 0.0
      IF(DUM1-EO,0.5)GO TO 235
      CALL BREAKP(227,4,1,CDCL45,DEPYLO,DEPYHI)
      IF(DEPYLO-LT,0.3)GO TO 235
      IF(I,GT,1) GO TO 213
      I = I + 1
      IP1 = I
      IADD = IADD + 1
      APBMC(IADD) = J,0
      GO TO 211
210 IP1 = I + 1
211 NG = 22A + 2 * (I-2)
      IF(I,EO,4)NG = NG + 1
      DO 230 J=1,IP1
      IADD = IADD + 1
      CALL LININT(NG,1,CDCL45,DEPY1)
      CALL LININT(NG+1,1,CDCL45,DEPY2)
      IF(NG-NE,230) GO TO 220
      CALL LININT(NG+2,1,STPOMS,DEPY3)
      NG = NG + 1
      DEPY1 = DEPY1 * ALNDSO / (STORED * 12.0)
      DEPY2 = DEPY2 * DEPY3
220 CONTINUE
      APBMC(IADD) = SREF * ( DEPY2 + DEPY1 * AKPOML )
      NG = NG + 2
230 CONTINUE
      XDELTA = APBMC(1) * (DUM1 - DEPYLO) /
      * (DEPYHI - DEPYLO) + (APBMC(2) - APBMC(1))
      * (PMBASP + XDELTA) / SRISTC
235 PMBASC(IMACH) = (PMBASP + XDELTA) / SRISTC
C ****
C **** INCREMENTAL-AIRCRAFT YAW
C **** PHYSPP = PITCHING MOMENT INCREMENT-AIRCRAFT YAW SLOPE
C **** PREDICTION
      * (+BS)

```

```

C **** PHYSPM = PITCHING MOMENT INCREMENT-AIRCRAFT YAW SLOPE
C **** PREDICTION (-BS)
      DU 357 NL = 1,2
      IDSTAR = NL + 26
      IF (DUM1.GT.0.5) GO TO 250
      XDELTA = 0.0
      CALL LIMINT(237,NL,CDCL45,DEP237)
      CALL LIMINT(238,NL,ANUPM,DEP238)
      DEP238 = DEP238 + HWHF
      CALL LIMINT(239,NL,CDCL45,DEP239)
      CALL LIMINT(240,NL,ANUPM,DEP240)
      DEP240 = DEP240 + HWHF
      XDELTA = (DEP237 + DEP238) * PPAOSL + DEP239 + DEP240 * SRSTD
      IF (NL.EQ.1) PHYSPM = XDELTA
      IF (NL.EQ.2) PHYSPP = XDELTA
250 CONTINUE
C **** PHYSCF(*) = PITCHING MOMENT INCREMENT-AIRCRAFT YAW SLOPE
C **** MACH NUMBER CORRECTION (+BS)
C **** PHYSCH(*) = PITCHING MOMENT INCREMENT-AIRCRAFT YAW SLOPE
C **** MACH NUMBER CORRECTION (-BS)
      IA00 = 0
      XDELTA = 0.0
      IF (DUM1.EQ.0.5) GO TO 295
      CALL PEAKP(242,4,1,CDCL45,DEPYLO,DEPYMI)
      IF (DUM1.EQ.0.5) GO TO 295
      IF (I.GT.1) GO TO 270
      IA00 = IA00 + 1
      I = I + 1
      IF1 = I
      APHYMC(IA00) = 0.0
      GO TO 271
270 IF1 = I + 1
271 DO 280 J=I,IF1
      IF (J.GT.5) APHYMC(2) = APHYMC(1)
      IF (J.GT.5) GO TO 290
      NG = 243 + 4 * (J-2)
      IA00 = IA00 + 1
      CALL LIMINT(NG,NL,CDCL45,DEPY1)
      CALL LIMINT(NG+1,NL,ANUPM,DEPY2)
      DEP22 = DEP22 + HWHF
      CALL LIMINT(NG+2,NL,CDCL45,DEPY3)
      CALL LIMINT(NG+3,NL,ANUPM,DEPY4)
      DEP24 = DEP24 + HWHF
      APHYMC(IA00) = ((DEPY1 + DEPY2) * PPAOSL + DEPY3 + DEPY4) * SRSTD
280 CONTINUE
290 XDELTA = APHYMC(1) + (DUM1 - DEPYLO) / (DEPYMI - DEPYLO) *
      (APHYMC(2) - APHYMC(1))
295 IF (NL.EQ.1) PHYSCH(1) = (PHYSPP + XDELTA) / SPISIC
      IF (NL.EQ.2) PHYSCH(2) = (PHYSPP + XDELTA) / SPISIC
C **** PHYSPP = PITCHING MOMENT INCREMENT-AIRCRAFT YAW INTERCEPT
C **** PREDICTION (+BS)
C **** PHYSPPH = PITCHING MOMENT INCREMENT-AIRCRAFT YAW INTERCEPT
C **** PREDICTION (-BS)
      IDSTAR = NL + 24
      IF (DUM1.GT.0.5) GO TO 300
      XDELTA = 0.0
      CALL LIMINT(259,NL,CDCL45,DEP259)

```





```

      *
      * DVALUE(NL) * SRISTD
      *
      375 CONTINUE
      C *** PMIASC(*) = PITCHING MOMENT INCREMENT-ADJACENT STORE
      C *** INTERFERENCE SLOPE MACH NUMBER CORRECTION
      XDELTA = 0.0
      IADD = 0
      IF (JUM1.EQ.0.5) GO TO 410
      CALL BREAKP(284,3,I,CDCL45,DEPYLO,DEPYHI)
      IF (DEPYLO.LT.0.0) GO TO 410
      IF (I.GT.1) GO TO 390
      IADD = IADD + 1
      I = I + 1
      IP1 = I
      APMIAC(I,*) = 0.0
      GO TO 395
      390 IP1 = I + 1
      395 DO 400 J=I,IP1
      IF (J.GT.4) APMIAC(2) = APMIAC(1)
      IF (J.GT.4) GO TO 405
      NG = 295 + 2 * (J-2)
      CALL LINTNT(NG,NL,CDCL45,DEPY1)
      CALL LINTNT(NG+1,NL,CDCL45,DEPY2)
      IADD = IADD + 1
      APMIAC(IADD) = (DEPY1 * PPAOSL + DEPY2 * DVALUE(NL) * SRISTD)
      400 CONTINUE
      405 XDELTA = APMIAC(1) + (DLM1 - DEPYLO) / (DEPYHI - DEPYLO) *
      *
      410 PMIASC(INMACH) = PMIASC(INMACH) + XDELTA
      C *** PMIAIF = PITCHING MOMENT INCREMENT-ADJACENT STORE
      C *** INTERFERENCE INTERCEPT PREDICTION
      IDSTAP = 32
      IF (JUM1.GT.0.5) GO TO 425
      CALL LINTNT(291,NL,CDCL45,DEP291)
      CALL LINTNT(292,NL,CDCL45,DEP292)
      PMIAIF = PMIAIF + (DEP291 * PPAOSL + DEP292) *
      * DVALUE(NL) * SRISTD
      425 CONTINUE
      C *** PMIAC(*) = PITCHING MOMENT INCREMENT-ADJACENT STORE
      C *** INTERFERENCE INTERCEPT MACH NUMBER CORRECTION
      XDELTA = 0.0
      IADD = 0
      IF (JUM1.EQ.0.5) GO TO 470
      CALL BREAKP(284,3,I,CDCL45,DEPYLO,DEPYHI)
      IF (DEPYLO.LT.0.0) GO TO 470
      IF (I.GT.1) GO TO 450
      IADD = IADD + 1
      I = I + 1
      IP1 = I
      APMIAC(IADD) = 0.0
      GO TO 455
      450 IP1 = I + 1
      455 DO 460 J=I,IP1
      IF (J.GT.4) APMIAC(2) = APMIAC(1)
      IF (J.GT.4) GO TO 465
      NG = 295 + 2 * (J-2)
      CALL LINTNT(NG,NL,CDCL45,DEPY1)
      CALL LINTNT(NG+1,NL,CDCL45,DEPY2)

```

```

345      IADJ = IADJ + 1
      APHAC(IADJ) = (DEPY1 * PPADSL + DEPY2) * CVALUE(ML) * SRTSID
      460 CONTINUE
      455 XDELTA = APHAC(1) + (DUM1 - DEPYLO) / (DEPYHI - DEPYLO) *
      * (APHAC(2) - APHAC(1))
      470 PHIAIC(IMACH) = PHIAIC(IMACH) + XDELTA
      500 CONTINUE
      PHIASC(IMACH) = (PHIASC(IMACH) + PHIASP) / SRTSID
      PHIAIC(IMACH) = (PHIAIC(IMACH) + PHIAIP) / SRTSID
      20000 RETURN
      END

```

```

1  SUBROUTINE AXIFRC
C *****
C  AXIAL FORCE
C  BASIC AIRLOAD
C  AXBASP(*) = SLOPE PREDICTION
C  AXBAIP(*) = INTERCEPT PREDICTION
C  INCREMENT-AIRCRAFT YAW
C  AXYSF(*) = SLOPE PREDICTION
C  AXYSPP(*) = SLOPE PREDICTION
C  AXYSPP(*) = INTERCEPT PREDICTION
C  AXYSPP(*) = INTERCEPT PREDICTION
C  INCREMENT-ADJACENT STORE INTERFERENCE
C  *NONE* = SLOPE PREDICTION
C  AXIAIP(*) = INTERCEPT PREDICTION
C  SHDARA = SHADED AREA
C *****
C  COMMON/COMING/ DUM1,IMACH,KROTP(14),NCASE,NCASES(5,94),NUMCA,
C  NUMCRD(5),MYMACH
C  COMMON/COMAXI/ AXBASP(7),AXBAIP(7),AXYSP(7),AXYIP(7),AXIAIP(7),
C  AXYSF(7),AXYSPP(7)
C  COMMON/COMINP/ AKWB,AKINTF,AKN,AKNB,AKTB,AKWB,AKWB,
C  ALANJA,ALFIN(S),ALINF1,ALINF2,ALINF3,ALINF4,ALINF5,ANOSL,
C  CQOISO,CLAISO,CLOCAL,DINTFI,DINTF2,DINTF3,DINTF4,DINTF5,
C  ICASE,ICCNFG,IMAGE( 9),ISYP,ITITLE(36),
C  NSEG(4,2),NSTYPE(4,2),PXICHL,REALM(8),SEGL,
C  SML,SPAT(4,2),STORED,STOREL,SUPPA,TAILPA,
C  WINGFA,MS,ACG,XINTFI,XINTF2,XINTF3,XINTF4,XINTF5,YBL,
C  YINTFI,YINTF2,YINTF3,YINTF4,YINTF5,ZPLNSP
C  COMMON/CGMSET/ ADOSL,AKCPH,AKCYM,AKNOSE(2),AKTAIL(2),
C  AKWIS(2),ALEDSL,ALDEL,ANUPF,AREASP(4,2),
C  CQCL45,CLDC45,CLSL45,DVALUE(2),IBEGN,ICALSG(7),
C  IDSY1,IFAD,IMACH1,PPAJFW,PEAXC,SAUJSP(4,2),SHOAPA,
C  SLOS2F,SLOS45,SPAOJS(2),SPATSP(2),SPEF,
C  SRTSD,STLDEL,STPOWS,YDSTD
C  COMMON/COMWAC/ XLINTD
C  COMMON/REMOV2/ ICALGR(7),IFIND,IMPGR(7),IFRNT
C  COMMON/COMSTR/ ISTAR(4,7),IDSTAR
C  AXBASP(IMACH) = 0.0
C  AXBAIP(IMACH) = 0.0
C  AXYSPP(IMACH) = 0.0
C  AXYSPP(IMACH) = 0.0
C  AXIAIP(IMACH) = 0.0
C  AXYSF(IMACH) = 0.0
C  AXYSF(IMACH) = 0.0
C  GO 125 IGSTR = 33,39
C  ISTAR(IGSTR,IMACH) = 14
125 CONTINUE
C *****
C  IF(ICALSG(IPRNT).EQ.0)GO TO 20030
C  *** AXBASP(*) = AXIAL FORCE BASIC AIRLOAD SLOPE PREDICTION
C  IDSTAR = 33
C  CALL LININT(301,1,DUM1,DEP301)
C  XLINTD = STPOWS
C  IF(STPOWS.LE.0.4)IDFV1 = ALNLOC(302,0.0,0.4,0.2,DUM1)
C  IF(STPOWS.GT.0.4.AND.STPOWS.LE.0.8)
C  DEP1 = ALNLOC(303,0.4,0.8,0.2,DUM1)

```

09/20/76 17.02.53

FTN 4.54410

SUBROUTINE AXIFR 74/74 OPT=1

```

60 IF(STPWS.GT.0.3)CALL T40E(303,2,3,0.6,0.8,0.0,1,DEPY1)
   XLINTO = ANUPM
   DEP304 = 0.0
   IF(XLINTO.GE.0.9,AN).XLINTO, E.0.2)
   *   DEP304 = ALNLOC(304,0.0,0.2,0.1,0.0,1,0.0,1)
   DEP304 = DEP304 * 440HF
   AXASP(IMACH) = DEP301 + DEPY1 + DEP304
   IOSTAR = 34
C **** AXASP(*) = AXIAL FORCE BASIC AIRLOAD INTERCEPT PREDICTION
   XLINTO = SHDARA
   DEP305 = ALNLOC(305,5,0,30,0.5,0,0,1)
   XLINTO = STPWS
   IF(STPWS.LT.0.4)DEPY1 = ALNLOC(306,0.2,0.4,0.1,0.0,1)
   IF(STPWS.GE.0.4)DEPY1 = ALNLOC(307,0.4,0.7,0.1,0.0,1)
   XLINTO = 0.0,1
   IF(ANUPM.GT.0.7) GO TO 150
   CALL LININT(308,1,ANUPM,DEP308)
   GO TO 210
150 IF(DUM1.GE.0.9)GO TO 160
   CALL T40D(308,1,2,0.7,0.9,ANUPM,DEP308)
   GO TO 210
160 IF(DUM1.GT.0.9)GO TO 170
   CALL LININT(308,2,ANUPM,DEP308)
   GO TO 210
170 IF(DUM1.GE.1.05) GO TO 180
   CALL T40D(308,2,3,0.9,1.05,ANUPM,DEP308)
   GO TO 210
180 IF(DUM1.GT.1.2) GO TO 190
   CALL LININT(308,3,ANUPM,DEP308)
   GO TO 210
190 IF(DUM1.GT.1.6) GO TO 230
   CALL T40D(308,3,4,1.2,1.6,ANUPM,DEP308)
   GO TO 210
200 CALL LININT(308,4,ANUPM,DEP308)
210 CONTINUE
   DEP308 = DEP308 * 440HF
   AXBAIF(IMACH) = (COOISO + DEP305) * (1.0 + DEPY1 + DEP308)
   DO 205 I=1,2
   IOSTAR = 34 + I
C **** AXSP(*) = AXIAL FORCE INCREMENTAL-AIRCRAFT YAW SLOPE
C **** PREDICTION
C **** AXSPH(*) = AXIAL FORCE INCREMENTAL-AIRCRAFT YAW SLOPE
C **** PREDICTION
C
   CALL LININT(309,1,DUM1,DEP309)
   IF(I.EQ.1)AXSPH(IMACH) = DEP309
   IF(I.EQ.2)AXSP(IMACH) = DEP309
C **** AXYP(*) = AXIAL FORCE INCREMENT-AIRCRAFT YAW
C **** INTERCEPT PREDICTION
C **** AXYPH(*) = AXIAL FORCE INCREMENT-AIRCRAFT YAW
C **** INTERCEPT PREDICTION
   IOSTAR = 36 + I
   CALL LININT(310,1,DUM1,DEP310)
   IF(I.EQ.1)AXYPH(IMACH) = DEP310
   IF(I.EQ.2)AXYP(IMACH) = DEP310
205 CONTINUE
C **** AXIASP(*) = AXIAL FORCE INCREMENT-ADJACENT STORE INTERFERENCE

```

09/20/76 17.02.53

FTN 4.5+4.10

SUBROUTINE AXIFRC 74/74 OPT=1

```

115      C ***** SLOPE PREDICTION
      IF (OINTFI.EQ.0.0.AND.OINTFO.EQ.0.0) GO TO 20000
      IOSTAR = 39
      CALL LININT(311,1,0UM1,CEP311)
      CALL LININT(313,1,0UM1,CEP313)
      X0UM = (AREASP(3,2) + AREASP(4,2)) / AREASP(2,2)
      CALL LININT(315,1,X0UM,CEP315)
      DO 220 I=1,BEGH,IEND
      IF (I.EQ.1) 0UMX = YINTFO + OINTFO * ALINFO
      IF (I.EQ.2) 0UMX = YINTFI + OINTFI * ALINFI
      CALL LININT(312,I,STPOMS,DEP312)
      CALL LININT(314,I,STPOMS,DEP314)
      AXIAP(IMACH) = AXIAP(IMACH) + ((DEP311 + DEP312) * SREF * 0UMX /
      * (STOREL * STORED) + DEP313 + DEP314 + DEP315 )
      220 CONTINUE
130      20000 RETURN
      END

```

```

1      SUBROUTINE ROLMOM
2      *
3      * ROLLING MOMENT
4      * BASIC AIRLOAD
5      * RMBASP(*) = SLOPE PREDICTION
6      * RMBASP(*) = INTERCEPT PREDICTION
7      * INCREMENT-AIRCRAFT YAN
8      * NONE* = SLOPE PREDICTION
9      * P4YTPP(*) = INTERCEPT PREDICTION
10     * RMYIPM(*) = INTERCEPT PREDICTION
11     * INCREMENT-ADJACENT STORE INTERFERENCE
12     * NONE* = SLOPE PREDICTION
13     * RMYIAP(*) = INTERCEPT PREDICTION
14     *
15     COMMON/CONINC/ DUM1,IMACH,KROTYF(14),NCASE,NCASES(5,94),NUMCIS,
16     * NUMCSD(5),NMACH
17     COMMON/CONROL/ RMBASP(7),RMBAP(7),RMYIPP(7),RMYIPM(7),
18     * RMYIAP(7)
19     *
20     COMMON/CONINF/ AKN,AKNB,AKTB,AKWB,AKMBI,
21     * ALAMDA,ALFEIN(5),ALINFI,ALINFO,ALINLT(5),ANOSL,
22     * CDOISO,CLAISU,CLOCAL,DINTFI,DINTFO,HWDHF,
23     * ICASE,ICONFG,IMAGE( 9),ISYM,ITITLE(36),
24     * NSEG(40,2),NSTYPE(40,2),EXDCML,REALH(8),SEGL,
25     * SWL,SPAT(40,2),STORED,STOREL,SUMPA,TAILPA,
26     * WINGPA,HSS,XCG,XINTFI,XINTFC,YBIG,YBL,
27     * YINTFI,YINTFO,YI,YIPR,ZPH,ZPLNSP
28     *
29     COMMON/CONSET/ AOPDSL,ARCFM,AKCYH,AKNOSE(2),AKTALU(2),
30     * AKWING(2),ALEDSL,ALEL,ANOPY,AREASP(4,2),
31     * CCG(45,4),CJOC45,CJSL45,VALUE(2),IDEGN,ICALSG(7),
32     * IOSY,LEND,IMACH1,PRAFM,PFAXC,SAOJSP(4,2),SHDARA,
33     * SLOSXF,SLOS45,SPADJS(2),SPATSP(2),SREF,
34     * SRTSTO,STLOCL,STPOWS,YUSTO
35     *
36     COMMON/CONMAC/ XLINTD
37     COMMON/REMOV2/ ICALSG(7),IFIND,INPCRA(7),IPRNT
38     COMMON/CONSTR/ ISTARS(46,7),IDSTAR
39     RMBASP(IMACH) = 0.0
40     RMYIPP(IMACH) = 0.0
41     RMYTPM(IMACH) = 0.0
42     RMYIAP(IMACH) = 0.0
43     DO 110 IDSTR = 40,44
44     ISTARS(IDSTR,IMACH) = 1P
45     110 CONTINUE
46     IFONT = 6
47     IDS4 = 1
48     IF(IDSYH.GT.3)IOSM = 2
49     IF(ICALSG(IPRNT).EQ.0.OR.ICASE.EQ.3)GO TO 20000
50     IDSTAR = 40
51     AREAS = SUMPA / 144.
52     IF(ICONFG.EQ.1HX)AREAS = 2.5284 * (AREASP(3,2)+AREASP(4,2))/144.0
53     IF(ICONFG.EQ.1H+)AREAS=2.0*(AREASP(3,2)+AREASP(4,2))/144.0
54     STOT12 = STORED * 12.0
55     ***** RMBASF(*) = ROLLING MOMENT BASIC AIRLOAD SLOPE PREDICTION
56     CALL LININT(317,IOS4,DUM1,DEP317)
57     IF(DUM1.GT.1.2) GO TO 120
58     CALL LININT(318,1,ANUPH,DEP318)

```

09/20/76 17.02.53

FTN 4.5+410

SUBROUTINE ROLNUP 74/74 OPT=1

```

        GO TO 140
120 IF (DUM1.GE.1.6) GO TO 130
    CALL TMOB(318,1,2,1.2,1.6,ANUPM,DEP318)
    GO TO 140
130 CALL LININT(318,2,ANUPM,DEP318)
140 CONTINUE
    DEP318 = DEP318 + HMDHF
    RMBSF(IMACH) = (DEP317 + DEP318) * AREAS * SLOS45 / SPTSTO
    C **** RMBAIP(*) = ROLLING MOMENT BASIC AIRLOAD INTERCEPT
    C **** PREDICTION
    IDSIAP = 41
    IF (DUM1.GT.0.5) GO TO 150
    CALL LININT(319,1,CLSL45,DEPY1)
    GO TO 270
150 IF (DUM1.GE.0.7) GO TO 160
    CALL TMOB(319,1,2,0.5,0.7,CLSL45,DEPY1)
    GO TO 270
160 IF (DUM1.GT.0.7) GO TO 170
    CALL LININT(319,2,CLSL45,DEPY1)
    GO TO 270
170 IF (DUM1.GE.0.9) GO TO 180
    CALL LININT(319,2,CLSL45,DEPY1)
    CALL LININT(320,1,CLSL45,YDEP2)
    DEPY1 = (YDEP2 - YDEP1) * (DUM1 - 0.7) / 0.2 + YDEP1
    GO TO 270
180 IF (DUM1.GT.0.9) GO TO 190
    CALL LININT(320,1,CLSL45,DEPY1)
    GO TO 270
190 IF (DUM1.GE.1.05) GO TO 200
    CALL TMOB(320,1,2,0.9,1.05,CLSL45,DEPY1)
    GO TO 270
200 IF (DUM1.GT.1.05) GO TO 210
    CALL LININT(320,2,CLSL45,DEPY1)
    GO TO 270
210 IF (DUM1.GE.1.2) GO TO 220
    CALL LININT(320,2,CLSL45,YDEP1)
    CALL LININT(321,1,CLSL45,YDEP2)
    DEPY1 = (YDEP2 - YDEP1) * (DUM1 - 1.05) / 0.15 + YDEP1
    GO TO 270
220 IF (DUM1.GT.1.2) GO TO 230
    CALL LININT(321,1,CLSL45,DEPY1)
    GO TO 270
230 IF (DUM1.GE.1.6) GO TO 240
    CALL TMOB(321,1,2,1.2,1.6,CLSL45,DEPY1)
    GO TO 270
240 IF (DUM1.GT.1.6) GO TO 250
    CALL LININT(321,2,CLSL45,DEPY1)
    GO TO 270
250 IF (DUM1.EQ.2.0) GO TO 260
    CALL LININT(321,2,CLSL45,YDEP1)
    CALL LININT(322,1,CLSL45,YDEP2)
    DEPY1 = (YDEP2 - YDEP1) * (DUM1 - 1.6) / 0.4 + YDEP1
    GO TO 270
260 CALL LININT(322,1,CLSL45,DEPY1)
270 CONTINUE
    RMBAIP(IMACH) = DEPY1 * AREAS / SPTSTO

```



39/20/76 17.02.53

FTN 4.5410

SUBROUTINE ROLMON 74/74 OPT=1

```

115 C **** RHYIPP(*) = ROLLING MOMENT INCREMENT-AIRCRAFT YAW INTERCEPT
C **** PREDICTION
      IOSTAR = 42
      IF(JUM1.GT.0.7) GO TO 280
      CALL LININT(325,1,ANUPM,DEP325)
      GO TO 315
120
280 IF(JUM1.GE.0.9) GO TO 290
      CALL THOD(325,1,2,3,7,5.9,ANUPM,DEP325)
      GO TO 315
125
290 IF(JUM1.GT.1.2) GO TO 300
      CALL LININT(325,2,ANUPM,DEP325)
      GO TO 315
300 IF(JUM1.GE.1.6) GO TO 310
      CALL THOD(325,2,3,1,2,1.6,ANUPM,DEP325)
      GO TO 315
130
310 CALL LININT(325,3,ANUPM,DEP325)
315 CONTINUE
      ISTAR(43,IMACH) = ISTAR(42,IMACH)
      DEP325 = 1.0 + (1.0 - DEP325) * HMDHF
      GO 325 NL = 1.2
      IOSTAR = 41 + NL
      XDELTA = 0.0
      CALL LININT(324,NL,JUM1,DEP324)
      XDELTA = DEP325 + DEP324 * AREAS + SLOS45 / SPISTO
      IF(NL.EQ.1) RHYIPM(IMACH) = XDELTA
      IF(NL.EQ.2) RHYIPM(IMACH) = XDELTA
325 CONTINUE
C **** F-RYIPM(*) = ROLLING MOMENT INCREMENT-AIRCRAFT YAW INTERCEPT
C **** PREDICTION
C **** RHYAIP(*) = ROLLING MOMENT INCREMENT-ADJACENT STORE INTERFERENCE
C **** INTERCEPT PREDICTION
      IF(DINTFI.EQ.0.0.AND.DINTFO.EQ.0.0) GO TO 20000
C ****
C **** ADJACENT STORE CALCULATIONS
C ****
      DO 395 NL = IBEGN, IEVD
      IOSTAR = 44
      IF(NL.EQ.1) ITP = -1
      IF(NL.EQ.2) ITP = 1
      NG = 327 * ITP
      CALL LININT(326,NL,JUM1,DEP326)
      IF(JUM1.GT.0.7) GO TO 325
      CALL LININT(NG,1,STOT12,DEP327)
      CALL LININT(NG+ITP,1,STFOWS,DEP328)
      CALL LININT(NG+ITP+ITP,1,CLSL45,DEP329)
      GO TO 390
335 IF(JUM1.GE.0.9) GO TO 345
      CALL THOD(NG,1,2,0,7,0.9,STOT12,DEP327)
      CALL THOD(NG+ITP,1,2,0,7,0.9,STFOWS,DEP328)
      CALL THOD(NG+ITP+ITP,1,2,0,7,0.9,CLSL45,DEP329)
      GO TO 390
345 IF(JUM1.GT.0.1) GO TO 355
      CALL LININT(NG,2,STOT12,DEP327)
      CALL LININT(NG+ITP,2,STFOWS,DEP328)
      CALL LININT(NG+ITP+ITP,2,CLSL45,DEP329)
      GO TO 390
355 IF(JUM1.GE.1.2) GO TO 365

```

09/20/76 17.02.53

FTN 4.5\*410

SUBROUTINE RULMOM 74/74 OPT=1

```

175      CALL TWOD(NG,2,3,0,9,1,2,STDT12,DEF327)
          CALL TWOD(NG+ITP,2,3,0,9,1,2,STPOMS,DEF328)
          CALL TWOD(NG+ITP+ITP,2,3,0,9,1,2,CLSL45,DEP329)
          GO TO 390
365      IF(DUM1.GT.1.2)GO TO 375
          CALL LININT(NG,3,STDT12,DEF327)
          CALL LININT(NG+ITP,3,STPOMS,DEF328)
          CALL LININT(NG+ITP+ITP,3,CLSL45,DEP329)
          GO TO 390
180      375      IF(DUM1.GE.1.6)GO TO 385
          CALL TWOD(NG,3,4,1,2,1,8,STDT12,DEF327)
          IF(NL.EQ.1)CALL LININT(NG+ITP,3,STPOMS,DEF328)
          IF(NL.EQ.2)CALL TWOD(NG+ITP,3,4,1,2,1,6,STPOMS,DEF328)
          CALL TWOD(NG+ITP+ITP,3,4,1,2,1,6,CLSL45,DEP329)
          GO TO 390
185      385      CALL LININT(NG,4,STDT12,DEF327)
          IF(NL.EQ.1)CALL LININT(NG+ITP,3,STPOMS,DEF328)
          IF(NL.EQ.2)CALL LININT(NG+ITP,4,STPOMS,DEF328)
          CALL LININT(NG+ITP+ITP,4,CLSL45,DEP329)
          390      RMIAIP(LMACH) = RMIAIP(LMACH) + (DEP326 + DEP327 + DEP328 +
              *      DEP329) * AREAS
190      395      CONTINUE
          RMIAIP(LMACH) = RMIAIP(LMACH) / SRISTO
195      20.60 RETURN
          END

```

09/20/76 17.02.53

FTN 4.5.413

FUNCTION ALNLOC 74/74 OPT=1

```

1  FUNCTION ALNLOC(NGRAPH,XLOW,XHI,XINC,XIND)
2  *
3  * THIS ROUTINE LOOKS UP A DEPENDENT VALUE FROM THE DATA
4  * BASE ASSUMING THE INDEPENDENT VALUES ARE EVENLY SPACED
5  *
6  * NGRAPH = THE NUMBER OF THE GRAPH BEING CONSIDERED
7  *
8  * XLOW = STARTING X VALUE
9  * XHI = ENDING Y VALUE
10 * XIND = INDEPENDENT VALUE
11 * XINC = X INCREMENT
12 *
13 *****
14 COMMON/UMMAC/ XLIND
15 XLOW = XLO
16 XHIGH = XINC + XLOW
17 LINE = 1
18 LINEP1 = 2
19 IF(XLIND.GE.XHI) LINE = (XHI - XLOW) / XINC + 1.
20 IF(XLIND.LE.XLOW.OR.XLIND.GE.XHIGH) GO TO 105
21 IF(XLIND.GT.XLOW) GO TO 110
22 CALL LININT(NGRAPH,LINE,XIND,YDEP)
23 GO TO 130
24
25 IF(XLIND.GE.XHIGH) GO TO 120
26 CALL THOD(NGRAPH,LINE,LINEP1,XLOW,XHIGH,XIND,YDEP)
27 GO TO 130
28
29 XLOW = XHIGH
30 XHIGH = XHIGH + XINC
31 LINE = LINE + 1
32 LINEP1 = LINEP1 + 1
33 GO TO 100
34
35 ALNLOC = YDEP
36 RETURN
37 END

```

09/20/76 17.02.53

FTN 4.5+410

SUBROUTINE BREAKF 74/74 OFT=1

```

1      SUBROUTINE BREAKF(NGRAPH,IEND,JUMP,XIND,XLO,XHI)
      C
      C      THIS SUBROUTINE FINDS THE HIGH AND LOW MACH NUMBERS
      C      BETWEEN WHICH THE MACH NUMBER BEING OBSERVED LIES.
      C      IF THE STUDIED MACH NUMBER IS ABOVE THE MAXIMUM GRAPH
      C      LINE PRESENT ON THE GRAPH, THE POINT CORRESPONDING TO
      C      THE MAXIMUM LINE WILL BE USED.
      C
      C      COMMON/COMING/ DUM1,IMACH,KROTP(14),NCASE,NCASES(5,94),NUMCAS,
      C      NUMCD(5),NTACH
      C
10     DO 110 I=1,IEND
      IF(I.GT.1)GO TO 120
      CALL LININT(NGRAPH,I,XIND,XHI)
      IF(DUM1.LE.XHI)GO TO 200
15     XLO = XHI
      CALL LININT(NGRAPH,I+1,XIND,XHI)
      JUMP = I
      IF(DUM1.GT.XLO.AND.DUM1.LE.XHI)GO TO 210
110    CONTINUE
      JUMP = JUMP + 1
      RETURN
200    XLO = - DUM1
210    RETURN
      END

```

DIGITAL DATA BASE LISTING

Presented below is a brief description of the format for each graph in the digital data base.

Figure Number	Line Number	Number of points (X, Y pairs) describing this curve in the data base		Number of cards containing the X, Y pairs	
13	1	17	6		
.1973E+00	.6636E+00	.2250E+00	.7194E+00	.2497E+00	.7665E+00
.2777E+00	.8112E+00	.3129E+00	.8487E+00	.3477E+00	.8985E+00
.3710E+00	.9252E+00	.4100E+00	.9559E+00	.4462E+00	.9791E+00
.4890E+00	.9942E+00	.5094E+00	.9958E+00	.5401E+00	.9930E+00
.5709E+00	.9819E+00	.5980E+00	.9755E+00	.6246E+00	.9631E+00
.6545E+00	.9452E+00	.6988E+00	.9204E+00		
		X <sub>17</sub>	Y <sub>17</sub>		



.1792E+03	.1051E+01	.1993E+00	.1051E+01	.1047E+03	.1195E+01
18	3	31	11	.1109E+03	.1165E+01
.3963E+02	.1198E+01	.1015E+03	.1198E+01	.1169E+03	.1105E+01
.1069E+03	.1176E+01	.1066E+03	.1176E+01	.1169E+03	.1105E+01
.1120E+03	.1176E+01	.1150E+03	.1176E+01	.1217E+03	.1043E+01
.1166E+03	.1085E+01	.1202E+03	.1063E+01	.1307E+03	.1007E+01
.1238E+03	.1025E+01	.1277E+03	.1010E+01	.1371E+03	.1012E+01
.1210E+03	.1005E+01	.1339E+03	.1007E+01	.1495E+03	.1063E+01
.1405E+03	.1023E+01	.1448E+03	.1045E+01	.1596E+03	.1133E+01
.1531E+03	.1038E+01	.1572E+03	.1111E+01	.1694E+03	.1182E+01
.1625E+03	.1156E+01	.1658E+03	.1172E+01	.1787E+03	.1197E+01
.1724E+03	.1180E+01	.1757E+03	.1195E+01		
.1994E+03	.1197E+01				
18	4	2	1		
.3967E+02	.1602E+01	.1996E+03	.1602E+01		
18	5	2	1		
.3983E+02	.2001E+01	.1996E+03	.2001E+01		
19	1	6	2		
.5305E+02	.6966E-04	.7987E+02	.3771E-04	.1122E+03	.1046E-04
.1440E+03	.1357E-04	.1712E+03	.3111E-04	.1998E+03	.4791E-04
20	1	53	18		
.3896E+02	.3843E-01	.4514E+02	.3849E-01	.4997E+02	.3845E-01
.5554E+02	.3833E-01	.5923E+02	.3769E-01	.6269E+02	.3723E-01
.6646E+02	.3646E-01	.7077E+02	.3532E-01	.7418E+02	.3413E-01
.8994E+02	.3259E-01	.8182E+02	.3120E-01	.8548E+02	.2957E-01
.9099E+02	.2782E-01	.9242E+02	.2562E-01	.9632E+02	.2371E-01
.9941E+02	.2175E-01	.1023E+03	.2008E-01	.1056E+03	.1756E-01
.1083E+03	.1536E-01	.1108E+03	.1324E-01	.1125E+03	.1193E-01
.1144E+03	.1079E-01	.1155E+03	.9532E-02	.1249E+03	.1507E-02
.1266E+03	.1222E-03	.1295E+03	.2566E-02	.1326E+03	.5540E-02
.1362E+03	.8921E-02	.1391E+03	.1206E-01	.1412E+03	.1401E-01
.1441E+03	.1703E-01	.1468E+03	.1944E-01	.1494E+03	.2269E-01
.1517E+03	.2533E-01	.1540E+03	.2811E-01	.1569E+03	.3141E-01
.1593E+03	.3438E-01	.1623E+03	.3723E-01	.1644E+03	.3939E-01
.1670E+03	.4179E-01	.1693E+03	.4428E-01	.1711E+03	.4554E-01
.1735E+03	.4729E-01	.1766E+03	.5018E-01	.1796E+03	.5195E-01
.1826E+03	.5422E-01	.1853E+03	.5613E-01	.1879E+03	.5756E-01
.1902E+03	.5914E-01	.1919E+03	.6029E-01	.1941E+03	.6110E-01
.1968E+03	.6236E-01	.2000E+03	.6399E-01		
21	1	11	4		
.1997E+03	.4398E+00	.2812E+00	.4565E+00	.3504E+00	.5466E+00
.4093E+00	.6468E+00	.7571E+00	.7571E+00	.5165E+00	.8366E+00
.5598E+00	.9413E+00	.5938E+00	.1024E+01	.6294E+00	.1088E+01
.6569E+00	.1121E+01	.6980E+00	.1172E+01		
22	1	18	6		
0.	0.	.5964E+00	.1233E-06	.6763E+00	.4522E-06
.7529E+00	.2302E-05	.8162E+00	.4804E-05	.8672E+00	.7359E-05
.9325E+00	.1122E-04	.9795E+00	.1864E-04	.1012E+01	.1727E-04
.1057E+01	.1083E-04	.1098E+01	.2088E-04	.1152E+01	.2251E-04
.1199E+01	.2360E-04	.1258E+01	.2524E-04	.1302E+01	.2598E-04
.1356E+01	.2647E-04	.1391E+01	.2693E-04	.1504E+01	.2693E-04
23	1	15	5		
.1993E+00	.1450E+00	.2653E+00	.2612E+00	.3189E+00	.3575E+00
.3705E+00	.4588E+00	.3988E+00	.5303E+00	.4369E+00	.6068E+00
.4750E+00	.6991E+00	.5061E+00	.7766E+00	.5352E+00	.8550E+00
.5605E+00	.9156E+00	.5942E+00	.1011E+01	.6253E+00	.1099E+01
.6538E+00	.1186E+01	.6767E+00	.1242E+01	.7000E+00	.1318E+01
24	1	22	8		
.1992E+00	.4444E-01	.3905E+00	.4283E-01	.4390E+00	.3475E-01
.5051E+00	.2929E-01	.5756E+00	.2202E-01	.6365E+00	.1394E-01
.6555E+00	.6667E-02	.7544E+00	.5051E-02	.8062E+00	.1273E-01
.8636E+00	.2184E-01	.9217E+00	.3554E-01	.9851E+00	.4444E-01
.1073E+01	.5515E-01	.1091E+01	.6747E-01	.1138E+01	.7711E-01
.1869E+01	.8069E-01	.1251E+01	.1036E+00	.1316E+01	.1202E+00
.1405E+01	.1913E+00	.1465E+01	.1590E+00	.1520E+01	.1758E+00
.1576E+01					



25	1588E+00	1484E+00	2523E+00	2359E+00	3014E+00	3183E+00
	3408E+00	4077E+00	3771E+00	4769E+00	4233E+00	5958E+00
	4606E+00	6965E+00	4998E+00	7982E+00	5396E+00	6948E+00
	5712E+00	9751E+00	6026E+00	1030E+01	6444E+00	1101E+01
26	6807E+00	1145E+01	6994E+00	1157E+01		
0.		1	17	6		
	3000E+00	0.	1000E+00	0.	2000E+00	0.
	6000E+00	0.	4000E+00	-1000E-05	5000E+00	-9020E-05
	9000E+00	-1100E-04	7000E+00	-1900E-04	8000E+00	-3300E-04
	3000E+00	-8000E-04	1000E+01	-1250E-03	1100E+01	-1610E-03
	1200E+01	-1940E-03	1300E+01	-2040E-03	1400E+01	-2200E-03
1500E+01	-2310E-03	1600E+01	1600E+01	-2430E-03		
27	1	1	22	8		
	1984E+00	7666E-01	2566E+00	9259E-01	3018E+00	1205E+00
	3562E+00	1553E+00	4012E+00	2031E+00	4460E+00	2628E+00
	4829E+00	3534E+00	5056E+00	4111E+00	5305E+00	5177E+00
	5520E+00	6570E+00	5693E+00	8183E+00	5799E+00	9248E+00
	5912E+00	1064E+01	5982E+00	1147E+01	6036E+00	1225E+01
	6104E+00	1299E+01	6199E+00	1354E+01	6319E+00	1433E+01
	6434E+00	1479E+01	6570E+00	1541E+01	6739E+00	1593E+01
7008E+00	1674E+01					
28	1	1	22	8		
	1986E+00	-5282E-01	3022E+00	-4485E-01	3541E+00	-3817E-01
	4333E+00	-2791E-01	5016E+00	-1694E-01	5639E+00	-4585E-02
	6203E+00	8571E-02	6982E+00	2532E-01	7610E+00	4266E-01
	8265E+00	6199E-01	9029E+00	8252E-01	9628E+00	1007E+00
	1020E+01	1186E+00	1067E+01	1344E+00	1116E+01	1497E+00
	1176E+01	1718E+00	1207E+01	1832E+00	1248E+01	1938E+00
	1291E+01	2033E+00	1326E+01	2119E+00	1367E+01	2175E+00
1401E+01	2193E+00					
29	1	1	7	3		
	4004E+02	2702E-04	8101E+02	2310E-04	1112E+03	1988E-04
	1358E+03	1770E-04	1571E+03	1528E-04	1757E+03	1347E-04
2000E+03	1145E-04					
30	1	1	8	3		
	3972E+02	-3406E-01	6927E+02	3582E-01	1039E+03	-3851E-01
	1270E+03	-3980E-01	1445E+03	-4076E-01	1604E+03	-4201E-01
	1790E+03	-4285E-01	2000E+03	-4482E-01		
31	1	1	27	9		
	4014E+02	-5710E-03	5231E+02	9720E-03	5911E+02	-9580E-03
	6643E+02	-9466E-03	7880E+02	-9110E-03	8305E+02	-8920E-03
	9193E+02	-6510E-03	9833E+02	-9000E-03	1042E+03	-7350E-03
	1111E+03	-6480E-03	1171E+03	-5420E-03	1205E+03	-4880E-03
	1257E+03	-3900E-03	1296E+03	-3050E-03	1364E+03	-1450E-03
	1400E+03	-5300E-04	1437E+03	6900E-04	1475E+03	1530E-03
	1514E+03	2590E-03	1566E+03	3880E-03	1623E+03	5360E-03
	1695E+03	6540E-03	1757E+03	7570E-03	1819E+03	8350E-03
	1885E+03	9020E-03	1941E+03	9563E-03	1997E+03	10100E-02
32	1	1	14	5		
	7443E+00	2233E-03	1100E+01	2129E-03	1377E+01	2078E-03
	1640E+01	2042E-03	1991E+01	1974E-03	2120E+01	1926E-03
	2177E+01	1887E-03	2232E+01	1755E-03	2344E+01	1500E-03
	2423E+01	1079E-03	2472E+01	7284E-04	2517E+01	3025E-04
2550E+01	0.		4000E+02	0.		
33	1	1	3	1		
	0.	0.	8020E+02	0.	9998E+02	-7131E-03
34	1	1	21	7		
	6977E+02	4757E+00	8127E+02	4291E+00	9545E+02	3330E+00
	1053E+03	2520E+00	1141E+03	1498E+00	1213E+03	5769E-01
	1267E+03	-1923E-01	1333E+03	-1417E+00	1405E+03	-2551E+00
	1479E+03	-3725E+00	1531E+03	-4615E+00	1542E+03	-4889E+00
	1566E+03	-5435E+00	1603E+03	-6275E+00	1656E+03	-6994E+00
	1704E+03	-7763E+00	1760E+03	-9472E+00	1817E+03	-9221E+00
1888E+03	-1004E+01		1933E+03	-1064E+01	2901E+03	-1132E+01

7676E+00	-144E+00	1047E+01	-1383E+00	1289E+01	-1363E+00
1538E+01	-1344E+00	1819E+01	-135E+00	2090E+01	-1283E+00
2179E+01	-1260E+00	2241E+01	-1242E+00	2326E+01	-1130E+00
2383E+01	-9389E-01	2439E+01	-8437E-01	2483E+01	-6456E-01
2511E+01	-4576E-01	2540E+01	-2309E-01	2554E+01	-1634E-02
2550E+01	0.	4000E+02	0.		
0.	36	3	1		
5959E+02	6964E+00	8007E+02	-4065E-02	9986E+02	-1216E+01
5975E+02	1046E+01	1093E+03	1046E+01	1132E+03	1047E+01
1156E+03	1063E+01	1194E+03	1080E+01	1229E+03	1106E+01
1260E+03	1131E+01	1290E+03	1154E+01	1319E+03	1165E+01
1355E+03	1181E+01	1394E+03	1191E+01	1417E+03	1156E+01
2003E+03	1196E+01				
5983E+02	1598E+01	2001E+03	1593E+01		
5991E+02	2000E+01	2003E+03	2000E+01		
7639E+02	-1607E-02	8659E+02	-1241E-02	9302E+02	-1023E-02
1017E+03	-7569E-03	1127E+03	-4995E-03	1213E+03	-3085E-03
1293E+03	-1675E-03	1360E+03	-4597E-04	1410E+03	5312E-04
1471E+03	1502E-03	1551E+03	2482E-03	1627E+03	3258E-03
1702E+03	3971E-03	1770E+03	4280E-03	1825E+03	4597E-03
1795E+03	4648E-03	1944E+03	4548E-03	2000E+03	4484E-03
7140E+02	4585E+01	7717E+02	1387E+01	8541E+02	1138E+01
9434E+02	866E+00	1038E+03	6399E+00	1145E+03	3560E+00
1235E+03	1605E+00	1301E+03	2365E-01	1346E+03	-7613E-01
1424E+03	-2305E+00	1517E+03	-3961E+00	1578E+03	-4887E+00
1645E+03	-5741E+00	1723E+03	-5636E+00	1792E+03	-7253E+00
1873E+03	-7829E+00	1945E+03	-8159E+00	2001E+03	-9333E+00
2020E+03	-2333E+00				
5987E+02	7208E-03	7911E+02	7411E-03	8511E+02	7645E-03
9123E+02	7736E-03	9836E+02	7726E-03	1019E+03	7604E-03
1079E+03	7371E-03	1114E+03	7005E-03	1151E+03	6640E-03
1181E+03	6183E-03	1202E+03	5807E-03	1254E+03	4619E-03
1284E+03	3527E-03	1324E+03	3096E-03	1358E+03	2447E-03
1385E+03	2010E-03	1415E+03	1563E-03	1444E+03	1107E-03
1481E+03	4975E-04	1504E+03	1523E-04	1532E+03	-2030E-04
1562E+03	-5584E-04	1628E+03	-1645E-03	1703E+03	-1958E-03
1755E+03	-2142E-03	1797E+03	-2415E-03	1838E+03	-2508E-03
1890E+03	-2741E-03	1949E+03	-2973E-03	2000E+03	-3036E-03
7670E+00	2340E-03	1002E+01	2275E-03	1184E+01	2193E-03
1340E+01	2181E-03	1328E+01	2157E-03	1733E+01	2063E-03
1945E+01	2359E-03	2068E+01	2031E-03	2162E+01	2031E-03
2216E+01	1957E-03	2284E+01	1860E-03	2333E+01	1709E-03
2383E+01	1493E-03	2427E+01	1270E-03	2451E+01	1025E-03
2484E+01	2220E-04	2524E+01	4395E-04	2553E+01	6104E-05
2550E+01	0.	4000E+02	0.		
5937E+02	2266E+00	7759E+02	-2307E+00	8472E+02	-2276E+00
9003E+02	2276E+00	9485E+02	-2276E+00	9955E+02	-2073E+00
1043E+03	1932E+00	1092E+03	-1717E+00	1412E+03	-1423E+00
1194E+03	8538E-01	1238E+03	-5183E-01	1302E+03	2846E-01
1344E+03	2841E-01	1389E+03	1626E+00	1415E+03	191E+00
1444E+03	227E+00	1494E+03	2642E+00	1541E+03	2978E+00
1596E+03	333E+00	1673E+03	3699E+00	1735E+03	4024E+00
1796E+03	4116E+00	1875E+03	4351E+00	1999E+03	4583E+00
9461E+00	6336E+00	1316E+01	-6066E+00	1623E+01	-5956E+00
1847E+00	-5756E+00	2061E+01	-6676E+00	2211E+01	-5604E+00



600E-01	-20A2E-06	7302E-01	-91E-06	826E-01	-750E-06
913E-01	-726E-06	9970E-01	-689E-06	1083E+00	-6728E-06
112E+00	-6154E-06	1208E+00	-5374E-06	1273E+00	-4021E-06
1310E+00	-3446E-06	1352E+00	-2462E-06	1391E+00	-1190E-06
1412E+00	-9436E-07	1422E+00	0.	1420E+00	0.
1000E+01	0.				
50					
500E+00	1147E-05	5671E+00	17	6215E+00	1537E-05
666E+00	1768E-05	7077E+00	2033E-05	7614E+00	2437E-05
7943E+00	2692E-05	8297E+00	2951E-05	8572E+00	3106E-05
8714E+00	3202E-05	8819E+00	3218E-05	8992E+00	3306E-05
9175E+00	3134E-05	9369E+00	2999E-05	9523E+00	2855E-05
9753E+00	2656E-05	1055E+00	2389E-05	1001E+01	2150E-05
1013E+01	1923E-05	1024E+01	1740E-05	1031E+01	1541E-05
1041E+01	1366E-05	1050E+01	1111E-05	1106E+01	9876E-06
1072E+01	880E-06	1089E+01	8243E-06	1102E+01	8323E-06
1122E+01	538E-06	1138E+01	1131E-05	1155E+01	1350E-05
1179E+01	1561E-05	1197E+01	1852E-05	1230E+01	2150E-05
1265E+01	2541E-05	1300E+01	2859E-05	1338E+01	3094E-05
1372E+01	3361E-05	1416E+01	3572E-05	1470E+01	3843E-05
1511E+01	4314E-05	1559E+01	4197E-05	1607E+01	4356E-05
1658E+01	4464E-05	1711E+01	4599E-05	1751E+01	4655E-05
1792E+01	4755E-05	1844E+01	4814E-05	1890E+01	4842E-05
1934E+01	4906E-05	2000E+01	4970E-05		
51					
500E+00	7216E-05	5695E+00	10	6401E+00	8655E-05
6556E+00	958E-05	7099E+00	1076E-05	7900E+00	1257E-04
8290E+00	1433E-04	8749E+00	1691E-04	9209E+00	1869E-04
9656E+00	2080E-04	1024E+01	2297E-04	1068E+01	2400E-04
1135E+01	258E-04	1192E+01	2641E-04	1247E+01	2702E-04
1297E+01	2765E-04	1333E+01	2805E-04	1367E+01	2842E-04
1406E+01	2870E-04	1464E+01	2917E-04	1529E+01	2966E-04
1595E+01	3014E-04	1655E+01	3015E-04	1742E+01	3016E-04
1918E+01	3018E-04	1883E+01	3020E-04	1949E+01	3030E-04
2000E+01					
52					
500E+00	3187E+00	6018E+00	12	6707E+00	3189E+00
7265E+00	3203E+00	7736E+00	3187E+00	8231E+00	3274E+00
8800E+00	3341E+00	9302E+00	3235E+00	9775E+00	3479E+00
1017E+01	3499E+00	1041E+01	3511E+00	1069E+01	3509E+00
1106E+01	3491E+00	1146E+01	3460E+00	1190E+01	3408E+00
1227E+01	3343E+00	1262E+01	3266E+00	1291E+01	3162E+00
1324E+01	3057E+00	1357E+01	2897E+00	1362E+01	2775E+00
1422E+01	2645E+00	1469E+01	2505E+00	1512E+01	2385E+00
1561E+01	2282E+00	1605E+01	2205E+00	1663E+01	2093E+00
1702E+01	2071E+00	1739E+01	2039E+00	1787E+01	2002E+00
1837E+01	1938E+00	1833E+01	1961E+00	1927E+01	1951E+00
2000E+01					
53					
5597E-01	-1444E+00	3050E-01	6	1002E+00	-1333E+00
1111E+00	-1293E+00	1502E+00	-11404E+00	1261E+00	-1177E+00
1304E+00	-1082E+00	1364E+00	-1248E+00	1414E+00	-7011E-01
1454E+00	-5248E-01	1480E+00	-9260E-01	1508E+00	-2310E-01
1531E+00	-1216E-01	1554E+00	-3850E-01	1550E+00	0.
1000E+01	0.		-2432E-02		
54					
5593E-01	-1913E+00	7579E-01	8	9071E-01	-1850E+00
1016E+00	-1630E+00	1102E+00	-11901E+00	1173E+00	-171E+00
1234E+00	-1706E+00	1285E+00	-1799E+00	1325E+00	-1566E+00
1365E+00	-1461E+00	1493E+00	-1633E+00	1458E+00	-1104E+00
1498E+00	-9141E-01	1532E+00	-1319E+00	1567E+00	-5350E-01
1596E+00	-3326E-01	1614E+00	-7437E-01	1634E+00	-1803E-01
1650E+00	-5321E-02	1659E+00	-2795E-01	1691E+00	-2634E-02
1690E+00	0.	1000E+01	-5876E-02		
2000E+01					
55					
2000E-01	-1720E+00	3017E-01	7	1001E+00	-160E+00

.1103E+00	-.1609E+00	.1201E+00	-.1534E+00	.1253E+00	-.1455E+00
.1299E+00	-.1374E+00	.1340E+00	-.1283E+00	.1395E+00	-.1102E+00
.1422E+00	-.5848E-01	.1456E+00	-.1470E-01	.1473E+00	-.7660E-01
.1496E+00	-.6586E-01	.1520E+00	-.4944E-01	.1539E+00	-.3587E-01
.1564E+00	-.2391E-01	.1587E+00	-.1236E-01	.1603E+00	-.5268E-02
.1619E+00	-.2026E-02	.1620E+00	0.	.1000E+01	0.
.6009E-01	-.1431E+00	.8046E-01	-.1382E+00	.1019E+00	-.1331E+00
.1123E+00	-.1237E+00	.1222E+00	-.1224E+00	.1284E+00	-.1129E+00
.1333E+00	-.1031E+00	.1372E+00	-.3875E-01	.1406E+00	-.7639E-01
.1447E+00	-.5795E-01	.1471E+00	-.4174E-01	.1500E+00	-.2472E-01
.1530E+00	-.1074E-01	.1554E+00	-.2837E-02	.1550E+00	0.
.1000E+01	0.	0.	0.	0.	0.
.5000E+00	.4018E-05	.6015E+00	.4018E-05	.6637E+00	.4018E-05
.7010E+00	.4015E-05	.7320E+00	.4007E-05	.7741E+00	.3965E-05
.8066E+00	.3949E-05	.8471E+00	.3896E-05	.8765E+00	.3852E-05
.9010E+00	.3833E-05	.9282E+00	.3755E-05	.9533E+00	.3638E-05
.9776E+00	.3492E-05	.1001E+01	.3320E-05	.1016E+01	.3175E-05
.1026E+01	.3112E-05	.1036E+01	.3015E-05	.1050E+01	.2959E-05
.1064E+01	.2942E-05	.1077E+01	.2950E-05	.1095E+01	.3072E-05
.1115E+01	.3193E-05	.1145E+01	.3330E-05	.1172E+01	.3438E-05
.1209E+01	.3530E-05	.1247E+01	.3565E-05	.1286E+01	.3605E-05
.1322E+01	.3640E-05	.1362E+01	.3648E-05	.1441E+01	.3650E-05
.1484E+01	.3648E-05	.1526E+01	.3640E-05	.1558E+01	.3613E-05
.1596E+01	.3591E-05	.1636E+01	.3575E-05	.1683E+01	.3533E-05
.1727E+01	.3516E-05	.1761E+01	.3500E-05	.1811E+01	.3468E-05
.1850E+01	.3460E-05	.1900E+01	.3427E-05	.1938E+01	.3391E-05
.2000E+01	.3381E-05	0.	0.	0.	0.
.5006E-01	-.3427E-05	.7985E-01	-.3402E-05	.9964E-01	-.3357E-05
.1074E+00	-.3332E-05	.1150E+00	-.3260E-05	.1207E+00	-.3174E-05
.1270E+00	-.2962E-05	.1333E+00	-.2639E-05	.1391E+00	-.2313E-05
.1434E+00	-.1966E-05	.1461E+00	-.1632E-05	.1492E+00	-.1285E-05
.1520E+00	-.5261E-06	.1543E+00	-.5956E-06	.1564E+00	-.3712E-06
.1590E+00	-.1591E-06	.1603E+00	-.1265E-06	.1600E+00	0.
.1000E+01	0.	0.	0.	0.	0.
.5994E-01	-.3092E-05	.8195E-01	-.3092E-05	.9120E-01	-.3084E-05
.1005E+00	-.3056E-05	.1083E+00	-.3007E-05	.1161E+00	-.2929E-05
.1202E+00	-.2852E-05	.1261E+00	-.2693E-05	.1303E+00	-.2542E-05
.1349E+00	-.2293E-05	.1378E+00	-.2076E-05	.1409E+00	-.1807E-05
.1430E+00	-.1595E-05	.1445E+00	-.1407E-05	.1467E+00	-.1183E-05
.1489E+00	-.8730E-06	.1502E+00	-.6650E-06	.1515E+00	-.4691E-06
.1527E+00	-.3346E-06	.1538E+00	-.2203E-06	.1556E+00	-.9791E-07
.1550E+00	0.	.1000E+01	0.	0.	0.
.6006E-01	-.2819E-05	.7993E-01	-.2819E-05	.8974E-01	-.2819E-05
.9980E-01	-.2815E-05	.1058E+00	-.2815E-05	.1099E+00	-.2766E-05
.1105E+00	-.2709E-05	.1197E+00	-.2631E-05	.1228E+00	-.2542E-05
.1261E+00	-.2456E-05	.1285E+00	-.2325E-05	.1305E+00	-.2191E-05
.1330E+00	-.2064E-05	.1350E+00	-.1905E-05	.1370E+00	-.1734E-05
.1392E+00	-.1558E-05	.1417E+00	-.1330E-05	.1440E+00	-.1040E-05
.1464E+00	-.7423E-06	.1479E+00	-.6491E-06	.1495E+00	-.3182E-06
.1504E+00	-.1550E-05	.1521E+00	-.1061E-06	.1520E+00	0.
.1000E+01	0.	0.	0.	0.	0.
.9989E-01	-.3423E-05	.7985E-01	-.3406E-05	.9351E-01	-.3378E-05
.1003E+00	-.3378E-05	.1056E+00	-.3345E-05	.1126E+00	-.3272E-05
.1180E+00	-.3207E-05	.1207E+00	-.3129E-05	.1248E+00	-.3043E-05
.1285E+00	-.2901E-05	.1323E+00	-.2733E-05	.1363E+00	-.2521E-05
.1393E+00	-.2329E-05	.1423E+00	-.2072E-05	.1446E+00	-.1848E-05
.1463E+00	-.1403E-05	.1500E+00	-.1191E-05	.1519E+00	-.9057E-06
.1537E+00	-.7302E-06	.1559E+00	-.3998E-06	.1574E+00	-.2652E-06
.1594E+00	-.113E-06	.1602E+00	-.1101E-06	.1600E+00	0.
.1000E+01	0.	0.	0.	0.	0.

49	5	24	13	39	26	51	52	53
.595E-01	-.285E-05	.8017E-01	-.2860E-05	.5569E+00	.6586E+00	.500E+00	.500E+00	.500E+00
.999E-01	-.2839E-05	.1043E+00	-.2831E-05	.7162E+00	.8697E+00	.1518E-04	.3195E+00	.500E+00
.114E+00	-.2733E-05	.1199E+00	-.2639E-05	.7162E+00	.1056E+01	.1743E-04	.3195E+00	.500E+00
.126E+00	-.2407E-05	.1294E+00	-.2248E-05	.8682E+00	.1236E+01	.2207E-04	.3282E+00	.500E+00
.135E+00	-.1355E-05	.1376E+00	-.1677E-05	.1008E+01	.1370E+01	.2730E-04	.3535E+00	.500E+00
.142E+00	-.1228E-05	.1442E+00	-.1016E-05	.1097E+01	.1553E+01	.3300E-04	.3854E+00	.500E+00
.147E+00	-.5956E-06	.1466E+00	-.4039E-06	.1172E+01	.1706E+01	.3576E-04	.4114E+00	.500E+00
.151E+00	-.1020E-06	.1520E+00	0.	.1210E+01	.1844E+01	.3703E-04	.4176E+00	.500E+00
50	2	39	13	39	26	51	52	53
.500E+00	.4890E-05	.5569E+00	.4878E-05	.5569E+00	.6586E+00	.1502E-04	.3195E+00	.500E+00
.6699E+00	.4763E-05	.7162E+00	.4683E-05	.7162E+00	.8697E+00	.1518E-04	.3195E+00	.500E+00
.8216E+00	.4448E-05	.8682E+00	.4283E-05	.8682E+00	.1056E+01	.1743E-04	.3195E+00	.500E+00
.9590E+00	.3879E-05	.1008E+01	.3572E-05	.1008E+01	.1236E+01	.2207E-04	.3282E+00	.500E+00
.1073E+01	.3094E-05	.1097E+01	.2835E-05	.1097E+01	.1370E+01	.2730E-04	.3535E+00	.500E+00
.1149E+01	.2126E-05	.1172E+01	.1736E-05	.1172E+01	.1553E+01	.3300E-04	.3854E+00	.500E+00
.1200E+01	.1449E-05	.1210E+01	.1413E-05	.1210E+01	.1706E+01	.3576E-04	.4114E+00	.500E+00
.1233E+01	.1545E-05	.1248E+01	.1641E-05	.1248E+01	.1844E+01	.3703E-04	.4176E+00	.500E+00
.1287E+01	.1955E-05	.1323E+01	.2214E-05	.1323E+01	.1946E+01	.3807E-05	.4200E+00	.500E+00
.1424E+01	.2807E-05	.1472E+01	.2983E-05	.1472E+01	.2000E+01	.3839E-05	.4200E+00	.500E+00
.1537E+01	.3741E-05	.1624E+01	.3441E-05	.1624E+01	.2000E+01	.3839E-05	.4200E+00	.500E+00
.1744E+01	.3640E-05	.1802E+01	.3747E-05	.1802E+01	.2000E+01	.3839E-05	.4200E+00	.500E+00
.1902E+01	.3807E-05	.1946E+01	.3839E-05	.1946E+01	.2000E+01	.3839E-05	.4200E+00	.500E+00
51	2	26	9	26	51	52	53	54
.500E+00	.1502E-04	.6586E+00	.1504E-04	.6586E+00	.1504E-04	.1504E-04	.1504E-04	.1504E-04
.8290E+00	.1518E-04	.8697E+00	.1557E-04	.8697E+00	.1557E-04	.1557E-04	.1557E-04	.1557E-04
.1000E+01	.1743E-04	.1056E+01	.1879E-04	.1056E+01	.1879E-04	.1879E-04	.1879E-04	.1879E-04
.1177E+01	.2207E-04	.1236E+01	.2412E-04	.1236E+01	.2412E-04	.2412E-04	.2412E-04	.2412E-04
.1325E+01	.2730E-04	.1370E+01	.2905E-04	.1370E+01	.2905E-04	.2905E-04	.2905E-04	.2905E-04
.1438E+01	.3300E-04	.1553E+01	.3432E-04	.1553E+01	.3432E-04	.3432E-04	.3432E-04	.3432E-04
.1615E+01	.3576E-04	.1706E+01	.3624E-04	.1706E+01	.3624E-04	.3624E-04	.3624E-04	.3624E-04
.1797E+01	.3703E-04	.1844E+01	.3707E-04	.1844E+01	.3707E-04	.3707E-04	.3707E-04	.3707E-04
.1950E+01	.3807E-05	.2000E+01	.3807E-05	.2000E+01	.3807E-05	.3807E-05	.3807E-05	.3807E-05
52	2	40	14	40	52	53	54	55
.500E+00	.3195E+00	.5497E+00	.3195E+00	.5497E+00	.3195E+00	.3195E+00	.3195E+00	.3195E+00
.6817E+00	.3195E+00	.7303E+00	.3195E+00	.7303E+00	.3195E+00	.3195E+00	.3195E+00	.3195E+00
.7578E+00	.3282E+00	.8328E+00	.3351E+00	.8328E+00	.3351E+00	.3351E+00	.3351E+00	.3351E+00
.8530E+00	.3535E+00	.9140E+00	.3631E+00	.9140E+00	.3631E+00	.3631E+00	.3631E+00	.3631E+00
.9551E+00	.3854E+00	.9764E+00	.3955E+00	.9764E+00	.3955E+00	.3955E+00	.3955E+00	.3955E+00
.1017E+01	.4114E+00	.1045E+01	.4174E+00	.1045E+01	.4174E+00	.4174E+00	.4174E+00	.4174E+00
.1076E+01	.4176E+00	.1096E+01	.4198E+00	.1096E+01	.4198E+00	.4198E+00	.4198E+00	.4198E+00
.1134E+01	.4200E+00	.1155E+01	.4200E+00	.1155E+01	.4200E+00	.4200E+00	.4200E+00	.4200E+00
.1201E+01	.4200E+00	.1233E+01	.4200E+00	.1233E+01	.4200E+00	.4200E+00	.4200E+00	.4200E+00
.1304E+01	.4200E+00	.1345E+01	.4200E+00	.1345E+01	.4200E+00	.4200E+00	.4200E+00	.4200E+00
.1442E+01	.4200E+00	.1490E+01	.4200E+00	.1490E+01	.4200E+00	.4200E+00	.4200E+00	.4200E+00
.1589E+01	.4200E+00	.1626E+01	.4200E+00	.1626E+01	.4200E+00	.4200E+00	.4200E+00	.4200E+00
.1701E+01	.4200E+00	.1752E+01	.4200E+00	.1752E+01	.4200E+00	.4200E+00	.4200E+00	.4200E+00
.2000E+01	.4200E+00	.2000E+01	.4200E+00	.2000E+01	.4200E+00	.4200E+00	.4200E+00	.4200E+00
53	1	19	7	19	53	54	55	56
.500E+00	.1453E+00	.7526E-01	-.1425E+00	.7526E-01	.1453E+00	.1453E+00	.1453E+00	.1453E+00
.9003E-01	-.1368E+00	.1086E+00	-.1392E+00	.1086E+00	.1368E+00	.1368E+00	.1368E+00	.1368E+00
.1248E+00	-.1157E+00	.1291E+00	-.1082E+00	.1291E+00	.1157E+00	.1157E+00	.1157E+00	.1157E+00
.1748E+00	-.6095E-01	.1416E+00	-.6626E-01	.1416E+00	.6095E-01	.6095E-01	.6095E-01	.6095E-01
.1644E+00	-.4032E-01	.1485E+00	-.2988E-01	.1485E+00	.4032E-01	.4032E-01	.4032E-01	.4032E-01
.1524E+00	-.2726E-02	.1543E+00	-.4255E-02	.1543E+00	.2726E-02	.2726E-02	.2726E-02	.2726E-02
.1000E+01	0.	.1000E+01	0.	.1000E+01	0.	0.	0.	0.
54	2	26	9	26	54	55	56	57
.5993E-01	-.2170E+00	.7160E-01	-.2146E+00	.7160E-01	.5993E-01	.5993E-01	.5993E-01	.5993E-01
.9026E-01	-.2111E+00	.1000E+00	-.2063E+00	.1000E+00	.9026E-01	.9026E-01	.9026E-01	.9026E-01
.1164E+00	-.2000E+00	.1233E+00	-.1933E+00	.1233E+00	.1164E+00	.1164E+00	.1164E+00	.1164E+00
.1347E+00	-.1737E+00	.1382E+00	-.1609E+00	.1382E+00	.1347E+00	.1347E+00	.1347E+00	.1347E+00
.1450E+00	-.1368E+00	.1487E+00	-.1234E+00	.1487E+00	.1450E+00	.1450E+00	.1450E+00	.1450E+00
.1542E+00	-.9585E-01	.1565E+00	-.8227E-01	.1565E+00	.1542E+00	.1542E+00	.1542E+00	.1542E+00
.1620E+00	-.5127E-01	.1650E+00	-.3546E-01	.1650E+00	.1620E+00	.1620E+00	.1620E+00	.1620E+00
.1702E+00	-.1256E-01	.1724E+00	-.7092E-02	.1724E+00	.1702E+00	.1702E+00	.1702E+00	.1702E+00
.1740E+00	0.	.1740E+00	0.	.1740E+00	.1740E+00	.1740E+00	.1740E+00	.1740E+00

53	5993E+00	1714E+00	3030E+01	1714E+00	1002E+00	1574E+00
	1099E+00	1635E+00	1162E+00	1595E+00	1199E+00	1562E+00
	1254E+00	1506E+00	1294E+00	1447E+00	1344E+00	1352E+00
	1384E+00	1200E+00	1407E+00	1112E+00	1438E+00	9929E-01
	1465E+00	8673E-01	1490E+00	7514E-01	1513E+00	6261E-01
	1534E+00	5167E-01	1535E+00	4195E-01	1569E+00	3080E-01
	1590E+00	2148E-01	1604E+00	1560E-01	1624E+00	8713E-02
	1647E+00	4458E-02	1650E+00	0.	0.	0.
53	6013E-01	1429E+00	3002E-01	1414E+00	1003E+00	1343E+00
	1102E+00	1329E+00	1201E+00	1234E+00	1257E+00	1147E+00
	1301E+00	1058E+00	1338E+00	9524E-01	1362E+00	8632E-01
	1480E+00	7173E-01	1433E+00	5755E-01	1462E+00	4335E-01
	1529E+00	2817E-01	1499E+00	2164E-01	1515E+00	1479E-01
	1000E+01	8511E-02	1544E+00	4255E-02	1540E+00	0.
55	5606E+00	1891E-02	5979E+00	1920E-02	6970E+00	1920E-02
	8009E+00	1960E-02	8997E+00	2040E-02	9988E+00	2090E-02
	1100E+01	2219E-02	1199E+01	2239E-02	1401E+01	2249E-02
	1601E+01	2388E-02	1802E+01	2405E-02	2000E+01	2416E-02
56	4559E+00	3813E+00	5673E+00	3454E+00	7106E+00	2951E+00
	8400E+00	2592E+00	9455E+00	2193E+00	1055E+01	1811E+00
	1224E+01	1165E+00	1342E+01	5062E-01	1449E+01	1356E-01
	1495E+01	1276E-01	1551E+01	3669E-01	1604E+01	6142E-01
	1674E+01	9811E-01	1775E+01	1422E+00	1863E+01	1787E+00
	1955E+01	2177E+00	2034E+01	2489E+00	2144E+01	2919E+00
	2235E+01	3222E+00	2347E+01	3621E+00	2428E+01	3892E+00
	2504E+01	4799E+00	2580E+01	4355E+00	2669E+01	4738E+00
	2763E+01	5057E+00	2850E+01	5368E+00	2926E+01	5575E+00
56	4598E+00	3254E+00	5912E+00	2863E+00	7126E+00	2449E+00
	8230E+00	2074E+00	9375E+00	1691E+00	1023E+01	1324E+00
	1117E+01	1013E+00	1168E+01	7178E-01	1256E+01	4068E-01
	1320E+01	8774E-02	1391E+01	2792E-01	1479E+01	6780E-01
	1555E+01	1045E+00	1634E+01	142E+00	1710E+01	1763E+00
	1788E+01	2010E+00	1841E+01	2353E+00	1919E+01	2664E+00
	1992E+01	2935E+00	2068E+01	3222E+00	2154E+01	3533E+00
	2241E+01	3844E+00	2317E+01	4108E+00	2395E+01	4363E+00
	2456E+01	4602E+00	2534E+01	4849E+00	2625E+01	5137E+00
	2703E+01	5376E+00	2779E+01	5631E+00	2860E+01	5878E+00
	2937E+01	6110E+00	3000E+01	6269E+00	0.	0.
56	4598E+00	2656E+00	5932E+00	2337E+00	7205E+00	1986E+00
	8340E+00	1683E+00	9335E+00	1413E+00	1015E+01	1180E+00
	1077E+01	9651E-01	1172E+01	7258E-01	1232E+01	5264E-01
	1342E+01	2552E-01	1409E+01	3190E-02	1493E+01	2074E-01
	1557E+01	4148E-01	1598E+01	5503E-01	1672E+01	7737E-01
	1758E+01	1037E+00	1863E+01	1372E+00	1959E+01	1683E+00
	2000E+01	1930E+00	2096E+01	2154E+00	2201E+01	2449E+00
	2287E+01	2744E+00	2402E+01	3095E+00	2480E+01	3318E+00
	2596E+01	3637E+00	2643E+01	3900E+00	2763E+01	4148E+00
	2842E+01	4347E+00	2902E+01	4514E+00	2946E+01	4674E+00
	3004E+01	4818E+00	0.	0.	0.	0.
56	4986E+00	1356E+00	6290E+00	1157E+00	7683E+00	9332E-01
	8181E+00	8534E-01	1131E+01	3190E-01	1222E+01	1436E-01
	1300E+01	4786E-02	1375E+01	1037E-01	1485E+01	1951E-01
	1600E+01	4546E-01	1734E+01	6859E-01	1865E+01	931E-01
	1998E+01	1133E+00	2110E+01	2251E+00	2251E+01	1599E+00
	2398E+01	1795E+00	2496E+01	1974E+00	2613E+01	2177E+00
	2733E+01	2345E+00	2849E+01	2521E+00	2914E+01	2556E+00
	3000E+01	2744E+00	0.	0.	0.	0.

[illegible]



1.157E+03	-1.118E+01	1.183E+03	-1.209E+01	1.131E+03	-1.136E+01
1.154E+03	-1.151E+01	1.197E+03	-1.163E+01	1.200E+03	-1.173E+01
-58		27	9		
7.558E+02	-1.408E-02	84.77E+02	-1.408E-01	9054E+02	-1.693E-01
9.676E+02	-1.122E+00	99.31E+02	-1.173E+00	1048E+03	-2408E+00
1.096E+03	-2980E+00	1.134E+03	-3.796E+00	1.160E+03	-4082E+00
1.283E+03	-6694E+00	1.334E+03	-7.633E+00	1.384E+03	-8016E+00
1.433E+03	-9178E+00	1.494E+03	-1.151E+01	1.550E+03	-1306E+01
1.592E+03	-1.429E+01	1.636E+03	-1.567E+01	1.686E+03	-1710E+01
1.732E+03	-1.869E+01	1.762E+03	-1.976E+01	1.796E+03	-2090E+01
1.842E+03	-2.253E+01	1.872E+03	-2.331E+01	1.905E+03	-2445E+01
1.940E+03	-2.576E+01	1.968E+03	-2.698E+01	2.000E+03	-2812E+01
-59		27	9		
7.998E+02	-1.107E+01	8502E+02	-1.103E+01	8997E+02	-1.107E+01
9.492E+02	-1.065E+01	9996E+02	-1.074E+01	1.050E+03	-1.139E+01
1.110E+03	-1.184E+01	1.156E+03	-1.233E+01	1.199E+03	-1.318E+01
1.251E+03	-1.392E+01	1.301E+03	-1.473E+01	1.359E+03	-1.588E+01
1.402E+03	-1.665E+01	1.451E+03	-1.816E+01	1.500E+03	-1.918E+01
1.536E+03	-2.020E+01	1.576E+03	-2.110E+01	1.615E+03	-2.216E+01
1.646E+03	-2.392E+01	1.691E+03	-2.441E+01	1.734E+03	-2.563E+01
1.782E+03	-2.727E+01	1.829E+03	-2.882E+01	1.869E+03	-3024E+01
1.924E+03	-3.208E+01	1.966E+03	-3.380E+01	2.002E+03	-3494E+01
-55		23	8		
5.000E+00	-1.725E-02	7.384E+00	-1.725E-02	8.969E+00	-1.726E-02
5.720E+00	-1.725E-02	1.035E+01	-1.717E-02	1.091E+01	-1.703E-02
1.129E+01	-1.701E-02	1.165E+01	-1.693E-02	1.201E+01	-1.671E-02
1.249E+01	-1.641E-02	1.294E+01	-1.617E-02	1.348E+01	-1.563E-02
1.396E+01	-1.516E-02	1.435E+01	-1.469E-02	1.494E+01	-1.408E-02
1.527E+01	-1.389E-02	1.593E+01	-1.363E-02	1.653E+01	-1.356E-02
1.700E+01	-1.356E-02	1.753E+01	-1.352E-02	1.805E+01	-1.355E-02
1.898E+01	-1.359E-02	2.000E+01	-1.360E-02		
-56		12	4		
8.426E+00	1.342E-01	1.067E+01	1.499E-01	1.347E+01	1.531E-01
1.566E+01	1.045E-01	1.797E+01	1.896E-01	1.991E+01	1.531E+00
2.214E+01	1.120E+00	2.628E+01	1.393E+00	2.667E+01	1.630E+00
2.944E+01	1.186E+00	3.145E+01	2.100E+00	3.483E+01	2.196E+00
-56		13	5		
9.337E+00	1.695E-02	1.210E+01	1.229E-01	1.362E+01	1.306E-01
1.485E+01	1.322E-01	1.690E+01	1.398E-01	1.909E+01	1.439E-01
2.075E+01	1.479E-01	2.266E+01	1.483E-01	2.493E+01	1.495E-01
2.746E+01	1.514E-01	2.980E+01	1.517E-01	3.231E+01	1.523E-01
3.486E+01	1.527E-01				
-56		13	5		
8.386E+00	1.592E-01	1.080E+01	1.156E+00	1.368E+01	1.367E+00
1.550E+01	1.154E+00	1.794E+01	1.598E+00	2.032E+01	1.725E+00
2.171E+01	1.791E+00	2.348E+01	1.885E+00	2.500E+01	1.970E+00
2.746E+01	2.064E+00	2.993E+01	2.211E+00	3.185E+01	2.340E+00
3.490E+01	2.501E+00				
-56		15	5		
8.337E+00	1.772E-01	1.092E+01	1.921E-01	1.367E+01	1.061E+00
1.662E+01	1.296E+00	1.911E+01	1.485E+00	1.972E+01	1.550E+00
2.122E+01	1.694E+00	2.297E+01	1.871E+00	2.484E+01	2.030E+00
2.703E+01	2.213E+00	2.901E+01	2.355E+00	3.065E+01	2.482E+00
3.208E+01	2.587E+00	3.363E+01	2.653E+00	3.406E+01	2.714E+00
-57		41	14		
7.300E+02	1.740E+00	7.632E+02	1.574E+00	8.015E+02	1.420E+00
8.299E+02	1.311E+00	8.640E+02	1.901E+00	8.948E+02	1.011E+00
9.216E+02	1.213E-01	9.501E+02	1.547E-01	9.866E+02	1.251E+00
1.013E+03	1.132E+00	1.039E+03	1.216E+00	1.067E+03	1.238E+00
1.096E+03	1.250E+00	1.118E+03	1.267E+00	1.142E+03	1.242E+00
1.166E+03	1.242E+00	1.199E+03	1.238E+00	1.237E+03	1.226E+00
1.265E+03	1.206E+00	1.298E+03	1.1780E+00	1.333E+03	1.496E+00
1.363E+03	1.125E+00	1.391E+03	1.493E-01	1.421E+03	1.647E-01
1.440E+03	1.202E-01	1.443E+03	1.449E-01	1.517E+03	1.843E-01
1.547E+03	1.294E+00	1.579E+03	1.829E+00	1.605E+03	2.265E+00
1.644E+03	2.493E+00	1.670E+03	1.400E+00	1.710E+03	4.477E+00

1756E+03	2217E+00	1796E+03	1055E+00	1825E+03	8673E+00
1864E+03	752E+00	1902E+03	833E+00	1933E+03	910E+00
1980E+03	978E+00	1998E+03	1076E+01		
57	2	29	10		
7381E+02	4611E+00	789E+02	3640E+00	824E+02	323E+00
8599E+02	2872E+00	898E+02	2427E+00	9639E+02	1901E+00
1013E+03	1496E+00	1061E+03	1132E+00	1099E+03	1052E+00
1133E+03	8898E+01	118E+03	849E+01	1220E+03	768E+01
1263E+03	7280E+01	133E+03	768E+01	1376E+03	806E+01
1430E+03	6493E+01	148E+03	1092E+00	1518E+03	133E+00
1564E+03	577E+00	160E+03	1780E+00	1647E+03	202E+00
1692E+03	2346E+00	172E+03	266E+00	1768E+03	291E+00
1811E+03	3357E+00	185E+03	392E+00	1903E+03	432E+00
1947E+03	4894E+00	199E+03	554E+00		
57	3	39	13		
7812E+02	1654E+01	798E+02	141E+01	8120E+02	119E+01
828E+02	106E+01	840E+02	857E+00	8640E+02	562E+00
878E+02	3964E+00	893E+02	269E+00	9078E+02	113E+00
922E+02	1618E+01	937E+02	137E+00	9574E+02	295E+00
972E+02	280E+00	990E+02	461E+00	1009E+03	550E+00
1031E+03	5067E+00	105E+03	647E+00	1082E+03	667E+00
1102E+03	779E+00	113E+03	671E+00	1175E+03	647E+00
1260E+03	5501E+00	129E+03	493E+00	1293E+03	489E+00
1378E+03	368E+00	141E+03	291E+00	1457E+03	21E+00
1501E+03	1213E+00	154E+03	484E+01	1589E+03	485E+01
1619E+03	1092E+00	170E+03	295E+00	1757E+03	404E+00
1804E+03	5137E+00	185E+03	606E+00	1893E+03	691E+00
1919E+03	7442E+00	195E+03	817E+00	199E+03	897E+00
57	4	55	19		
792E+02	2071E+01	799E+02	177E+01	808E+02	148E+01
818E+02	1258E+01	825E+02	102E+01	839E+02	829E+00
840E+02	663E+00	851E+02	495E+00	891E+02	323E+00
862E+02	214E+00	877E+02	647E+01	885E+02	970E+01
885E+02	2224E+00	909E+02	396E+00	924E+02	570E+00
940E+02	7199E+00	958E+02	854E+00	978E+02	977E+00
989E+02	1048E+01	101E+03	111E+01	1039E+03	116E+01
102E+03	1197E+01	108E+03	120E+01	111E+03	117E+01
112E+03	1096E+01	118E+03	988E+00	1210E+03	86E+00
124E+03	742E+00	127E+03	582E+00	1294E+03	461E+00
135E+03	2710E+00	134E+03	149E+00	1361E+03	242E+01
138E+03	5707E+01	140E+03	265E+00	1431E+03	461E+00
144E+03	5905E+00	147E+03	74E+00	150E+03	881E+00
152E+03	1019E+01	155E+03	115E+01	158E+03	126E+01
160E+03	135E+01	163E+03	148E+01	167E+03	163E+01
170E+03	1735E+01	169E+03	169E+01	177E+03	195E+01
181E+03	2063E+01	184E+03	218E+01	188E+03	228E+01
190E+03	2374E+01	193E+03	243E+01	195E+03	251E+01
199E+03	2580E+01				
58	1	22	8		
7564E+02	5283E+00	878E+02	5421E+00	964E+02	447E+00
102E+03	3778E+00	109E+03	328E+00	1157E+03	275E+00
119E+03	250E+00	124E+03	209E+00	1306E+03	168E+00
1370E+03	135E+00	141E+03	821E+01	1478E+03	657E+01
1521E+03	4107E+01	156E+03	921E+02	1629E+03	369E+01
1682E+03	4517E+01	174E+03	557E+01	1797E+03	903E+01
1849E+03	1109E+00	190E+03	135E+00	1961E+03	16E+00
199E+03	1766E+00				
58	2	19	7		
802E+02	3904E+00	851E+02	3614E+00	890E+02	332E+00
959E+02	2916E+00	998E+02	262E+00	1049E+03	238E+00
1120E+03	2136E+00	118E+03	1930E+00	1252E+03	188E+00
1317E+03	172E+00	137E+03	164E+00	1451E+03	168E+00
150E+03	1684E+00	161E+03	164E+00	171E+03	168E+00
179E+03	168E+00	188E+03	168E+00	194E+03	172E+00
199E+03	1807E+00				
54	3	34	17		

3062E+02	-2517E+01	0127E+02	-2284E+11	250E+02	-1453E+11
3354E+02	-1651E+01	3483E+02	-1359E+01	8613E+02	-1068E+01
3759E+02	-7926E+00	8897E+02	-5503E+00	9019E+02	-3696E+00
9230E+02	-5856E+01	9408E+02	123E+00	9651E+02	3450E+00
9576E+02	5298E+00	1022E+03	6448E+00	1047E+02	7105E+00
1090E+03	7639E+00	1122E+03	7721E+00	1163E+03	7885E+00
1203E+03	7803E+00	1249E+03	7745E+00	1282E+03	7146E+00
1321E+03	6653E+00	1374E+03	6119E+00	1413E+03	5544E+00
1457E+03	4428E+00	1499E+03	4193E+00	1522E+03	3450E+00
1595E+03	4233E+00	1637E+03	1643E+00	1674E+03	1232E+00
1716E+03	275E+01	1765E+03	3214E+01	1798E+03	-1602E+00
1848E+03	2566E+00	1895E+03	-3655E+00	1938E+03	-4205E+00
1988E+03	-2160E+00	2000E+03	-5200E+00		
53	70		24		
3062E+02	-2086E+01	8264E+02	-1405E+01	8459E+02	-8049E+00
8548E+02	-5175E+00	8662E+02	-2423E+00	8808E+02	-1109E+00
9086E+02	4476E+00	9148E+02	7105E+00	9270E+02	3789E+00
9416E+02	1072E+01	9578E+02	1191E+01	9708E+02	1326E+01
9933E+02	1437E+01	1004E+03	1536E+01	1025E+03	1585E+01
1045E+03	1643E+01	1058E+03	1659E+01	1072E+03	1663E+01
1092E+03	1659E+01	1112E+03	1651E+01	1135E+03	1598E+01
1154E+03	1536E+01	1168E+03	1487E+01	1182E+03	1421E+01
1198E+03	1363E+01	1212E+03	1269E+01	1230E+03	1183E+01
1248E+03	1072E+01	1261E+03	9651E+00	1288E+03	7474E+00
1301E+03	8366E+00	1314E+03	5339E+00	1325E+03	4230E+00
1338E+03	3162E+00	1353E+03	1971E+00	1367E+03	6160E+01
1377E+03	-6160E+01	1394E+03	-1971E+00	1406E+03	-3203E+00
1423E+03	-5092E+00	1434E+03	-6160E+00	1445E+03	-7310E+00
1455E+03	-6583E+00	1464E+03	-9528E+00	1474E+03	-1068E+01
1488E+03	-1187E+01	1498E+03	-1290E+01	1512E+03	-1450E+01
1530E+03	-1577E+01	1541E+03	-1659E+01	1556E+03	-1786E+01
1573E+03	-1897E+01	1588E+03	-1932E+01	1603E+03	-2090E+01
1620E+03	-2205E+01	1642E+03	-2337E+01	1667E+03	-2509E+01
1690E+03	-2632E+01	1723E+03	-2813E+01	1748E+03	-2936E+01
1722E+03	-3051E+01	1795E+03	-3154E+01	1819E+03	-3269E+01
1846E+03	-3405E+01	1875E+03	-3540E+01	1895E+03	-3630E+01
1924E+03	-3754E+01	1946E+03	-3864E+01	1972E+03	-3963E+01
1989E+03	-4062E+01				
59	13		5		
1500E+03	1600E+00	5000E+02	1870E+00	1000E+03	2270E+00
2500E+03	4450E+00	2000E+03	3800E+00	2250E+03	4300E+00
3500E+03	4140E+00	2750E+03	4480E+00	3000E+03	4400E+00
5000E+03	3250E+00	4000E+03	3780E+00	4500E+03	3450E+00
60	27		9		
6813E+01	-6015E+01	7075E+01	-5673E+01	7402E+01	-5251E+01
720E+01	-4805E+01	8006E+01	-4510E+01	8341E+01	-4104E+01
8699E+01	-3721E+01	8985E+01	-3402E+01	9256E+01	-3092E+01
9606E+01	-2757E+01	9916E+01	-2510E+01	1026E+00	-2183E+01
1061E+00	-1849E+01	1094E+00	-1657E+01	1131E+00	-1410E+01
1164E+00	-1163E+01	1197E+00	-9641E+02	1233E+00	-7570E+02
1278E+00	-5498E+02	1316E+00	-4223E+02	1355E+00	-2789E+02
1394E+00	-1594E+02	1425E+00	-1036E+02	1460E+00	-3984E+03
1481E+00	-7963E+04	1480E+00	0	1000E+01	0
62	1		1		
5995E+02	5000E+00	2001E+03	5000E+00		
62	2		1		
5963E+02	6999E+00	1999E+03	6999E+00		
62	3		5		
5995E+02	1049E+01	1007E+03	1049E+01	1038E+03	1054E+01
1063E+03	1054E+01	1077E+03	1066E+01	1102E+03	1079E+01
1115E+03	1090E+01	1130E+03	1109E+01	1142E+03	1131E+01
1151E+03	1147E+01	1162E+03	1165E+01	1171E+03	1163E+01
1103E+03	1191E+01	1197E+03	1201E+01	2000E+03	1201E+01
62	4		1		
5670E+02	1487E+01		1487E+01		

[illegible]

70	6964E+02	1	4224E+00	32	7580E+02	11	4513E+00	8172E+02	-4571E+00
	723E+02		4653E+00		9072E+02		4673E+00	9518E+02	-4694E+00
	1003E+03		4694E+00		1034E+03		4551E+00	1064E+03	-4224E+00
	1089E+03		3959E+00		1111E+03		3510E+00	1139E+03	-2959E+00
	1171E+03		2449E+00		1188E+03		2163E+00	1202E+03	-1857E+00
	1223E+03		1755E+00		1264E+03		1796E+00	1310E+03	-2163E+00
	1348E+03		238E+00		1391E+03		2510E+00	1450E+03	-2796E+00
	1493E+03		3082E+00		1546E+03		3184E+00	1595E+03	-3429E+00
	1651E+03		3469E+00		1701E+03		3551E+00	1749E+03	-3694E+00
	1802E+03		3816E+00		1851E+03		3857E+00	1898E+03	-3935E+00
	1946E+03		4009E+00		1996E+03		4184E+00		
71		1		37		13			
	7000E+02		1350E-01		7990E+02		1960E-01	8016E+02	-1770E-01
	9005E+02		1692E-01		9428E+02		1574E-01	9704E+02	-1438E-01
	9547E+02		1365E-01		1045E+03		1247E-01	1034E+03	-1083E-01
	1056E+03		9605E-02		1083E+03		7684E-02	1104E+03	-6253E-02
	1128E+03		4455E-02		1151E+03		3106E-02	1172E+03	-1676E-02
	1196E+03		1226E-03		1245E+03		2493E-02	1265E+03	-5068E-02
	1311E+03		1396E+03		1345E+03		9174E-02	1368E+03	-9605E-02
	1402E+03		6499E-02		1440E+03		1275E-01	1473E+03	-1459E-01
	1495E+03		116E-01		1528E+03		1688E-01	1570E+03	-1839E-01
	1597E+03		1974E-01		1640E+03		2101E-01	1682E+03	-2228E-01
	1722E+03		2313E-01		1773E+03		2416E-01	1815E+03	-2493E-01
	1857E+03		2550E-01		1900E+03		2609E-01	1946E+03	-2649E-01
72		1		27		9			
	4689E-01		6047E-01		5754E-01		6031E-01	5810E-01	-5990E-01
	7745E-01		5933E-01		8517E-01		5916E-01	9118E-01	-5867E-01
	9817E-01		5802E-01		1052E+00		5736E-01	1119E+00	-5671E-01
	1153E+00		5606E-01		1199E+00		5557E-01	1231E+00	-5344E-01
	1255E+00		5173E-01		1282E+00		4944E-01	1297E+00	-4691E-01
	1309E+00		4478E-01		1328E+00		4886E-01	1349E+00	-3473E-01
	1369E+00		2909E-01		1386E+00		2141E-01	1395E+00	-1749E-01
	1406E+00		1120E-01		1412E+00		8008E-02	1417E+00	-4331E-02
	1422E+00		1634E-03		1420E+00			1400E+01	0.
73		1		32		11			
	6447E+02		1346E+01		7162E+02		1301E+01	7942E+02	-1273E+01
	6697E+02		1220E+01		9225E+02		1176E+01	9769E+02	-1164E+01
	1013E+03		1119E+01		1035E+03		1103E+01	1063E+03	-1030E+01
	1059E+03		9730E+00		1134E+03		8716E+00	1186E+03	-7216E+00
	1211E+03		6941E+00		1264E+03		5027E+00	1302E+03	-3770E+00
	1344E+03		2595E+00		1389E+03		1257E+00	1419E+03	-4459E-01
	1454E+03		4865E-01		1490E+03		1581E+00	1522E+03	-2676E+00
	1548E+03		3203E+00		1591E+03		4500E+00	1622E+03	-5554E+00
	1578E+03		7135E+00		1710E+03		8068E+00	1744E+03	-9041E+00
	1775E+03		5892E+00		1808E+03		1082E+01	1854E+03	-1206E+01
	1927E+03		1439E+01		2000E+03		1626E+01		
74		1		29		10			
	4492E-01		3316E+01		6093E-01		3235E+01	7547E-01	-3196E+01
	8318E-01		3186E+01		9066E-01		3162E+01	9886E-01	-3113E+01
	1073E+00		3113E+01		1136E+00		3101E+01	1184E+00	-3060E+01
	1212E+00		2987E+01		1232E+00		2954E+01	1255E+00	-2881E+01
	1270E+00		2800E+01		1288E+00		2744E+01	1311E+00	-2547E+01
	1335E+00		2519E+01		1349E+00		2153E+01	1363E+00	-1982E+01
	1378E+00		175JE+01		1388E+00		1558E+01	1399E+00	-1322E+01
	1405E+00		1135E+01		1415E+00		927E+00	1426E+00	-6877E+00
	1430E+00		4883E+00		1435E+00		2970E+00	1441E+00	-4069E-02
	1440E+00				1400E+01		0.		
76		1		2		1			
	6954E+02		6988E+00		2000E+03		6998E+00		
76		2		2		1			
	6971E+02		4200E+01		2002E+03		1200E+01		
76		3		2		1			
	6954E+02		1600E+01		2002E+03		1600E+01		
76		6		3		1			



-1000E+01	.2670E+01	0.	.3470E+01	.1000E+01	.4470E+01
-2000E+01	.5650E+01	0.	.6000E+01	.3000E+01	.5900E+01
-4000E+01	.3450E+01	0.	.1470E+01	.6000E+01	.4200E+00
-7000E+01	0.	0.	0.	.1200E+02	0.
-910	510	14	5		
-4000E+01	.1300E+01	0.	.2180E+01	.2000E+01	.3280E+01
-1000E+01	.4800E+01	0.	.5900E+01	.2500E+00	.6060E+01
-5000E+00	.5920E+01	0.	.5180E+01	.2000E+01	.2400E+01
-3000E+01	.1130E+01	0.	.3500E+00	.5000E+01	0.
-6000E+01	0.	0.	0.	0.	0.
-910	510	15	5		
-4000E+01	.8800E+00	0.	.1600E+01	.2000E+01	.2400E+01
-1000E+01	.3270E+01	0.	.4350E+01	.1000E+01	.5320E+01
-1500E+01	.5450E+01	0.	.5400E+01	.3000E+01	.4550E+01
-4000E+01	.2600E+01	0.	.9800E+00	.6000E+01	.1500E+00
-6500E+01	0.	0.	.7000E+01	.1200E+02	0.
-911	1	8	3		
-4000E+01	.4200E+01	0.	.7350E+01	.8000E+01	.8200E+01
-8250E+01	.8230E+01	0.	.7600E+01	.1000E+02	.5980E+01
-1100E+02	.3970E+01	0.	.2000E+01	0.	0.
-915	1	11	4		
-5000E+00	.4000E+00	0.	.1250E+01	.7000E+00	.2100E+01
-8000E+00	.2800E+01	0.	.3550E+01	.9500E+00	.3900E+01
-1000E+01	.3700E+01	0.	.3400E+01	.1100E+01	.3000E+01
-1150E+01	.2650E+01	0.	.2400E+01	0.	0.
-915	2	11	4		
-5000E+00	.2600E+01	0.	.2400E+01	.7000E+00	.1800E+01
-8000E+00	.1100E+01	0.	.3500E+00	.9500E+00	.2000E+00
-1000E+01	.6000E+00	0.	.1000E+01	.1100E+01	.7500E+00
-1150E+01	.3000E+00	0.	.2000E+01	0.	0.
-915	3	11	4		
-5000E+00	.1800E+01	0.	.1500E+01	.7000E+00	.1200E+01
-8000E+01	.1200E+01	0.	.1400E+01	.9500E+00	.1600E+01
-1000E+01	.1800E+01	0.	.2100E+01	.1100E+01	.2500E+01
-1150E+01	.2900E+01	0.	.3400E+01	0.	0.
-912	1	18	6		
-5000E+00	.4400E+03	0.	.5100E+03	.6000E+00	.5700E+03
-6500E+00	.6200E+03	0.	.6600E+03	.7500E+00	.6900E+03
-8000E+00	.7100E+03	0.	.7300E+03	.9000E+00	.7500E+03
-9250E+00	.8300E+03	0.	.1000E+02	.9750E+00	.9600E+03
-1000E+01	.8300E+03	0.	.7100E+03	.1050E+01	.6300E+03
-1100E+01	.5800E+03	0.	.5600E+03	.1200E+01	.5500E+03
-911	1	13	5		
-5000E+00	.2200E+01	0.	.2350E+01	.6000E+00	.2500E+01
-6500E+00	.2700E+01	0.	.3000E+01	.7500E+00	.3400E+01
-8000E+00	.3800E+01	0.	.4200E+01	.9000E+00	.4500E+01
-1050E+01	.4500E+01	0.	.4300E+01	.1150E+01	.3940E+01
-1200E+01	.3500E+01	0.	0.	0.	0.
-914	1	8	3		
-4000E+01	.1420E+00	0.	.1380E+00	.8000E+01	.1300E+00
-1000E+00	.1000E+00	0.	.1000E+00	.1400E+00	.6200E+01
-1600E+00	0.	0.	0.	0.	0.
-914	2	8	3		
-4000E+01	.2900E+00	0.	.2830E+00	.8000E+01	.2700E+01
-1000E+00	.2350E+00	0.	.1630E+00	.1400E+00	.6800E+01
-1600E+00	0.	0.	0.	0.	0.
-914	3	8	3		
-4000E+01	.2500E+00	0.	.2450E+00	.8000E+01	.2300E+00
-1000E+00	.1930E+00	0.	.1300E+00	.1400E+00	.5000E+01
-1600E+00	0.	0.	0.	0.	0.
-83	1	26	9		
-6.7E+02	.1806E-01	0.	.1927E-01	.8120E+02	.2024E-01
-8672E+02	.2057E-01	0.	.2113E-01	.9663E+02	.2130E-01
-1004E+03	.2154E-01	0.	.2154E-01	.1106E+03	.2162E-01
-1168E+03	.2154E-01	0.	.2154E-01	.1254E+03	.2138E-01
-1292E+03	.2121E-01	0.	.2089E-01	.1390E+03	.2065E-01

1.044E+03	2316E-01	1.430E+03	1.963E-01	1.533E+03	1.67E-01
1.596E+03	162E-01	1.672E+03	1.592E-01	1.730E+03	1.587E-01
1.793E+03	149E-01	1.866E+03	1.377E-01	1.918E+03	1.190E-01
1.950E+03	103E+03	2.006E+03	0.963E-02		
84	1	25	9		
6.072E+02	134E+00	7.566E+02	1.164E+00	8.505E+02	9.616E-01
9.098E+02	816E-01	9.854E+02	0.590E-01	1.054E+03	0.371E-01
1.104E+03	153E-01	1.193E+03	-1.131E-01	1.274E+03	0.387E+00
1.329E+03	670E-01	1.32E+03	0.870E-01	1.468E+03	-1.220E+00
1.518E+03	-1.487E+00	1.569E+03	-1.737E-01	1.622E+03	-2.020E+00
1.673E+03	-2.287E+00	1.725E+03	-2.618E+00	1.768E+03	-2.861E+00
1.813E+03	-3.232E+00	1.855E+03	3.523E+00	1.890E+00	-3.798E+00
1.914E+03	-4.040E+00	1.931E+03	-4.372E+00	1.974E+03	-4.566E+00
2.002E+03	-4.857E+00				
85	1	19	7		
8.050E+02	-5.223E-05	8.936E+02	-5.551E-05	9.821E+02	-6.397E-05
1.058E+03	-6.002E-05	1.104E+03	-7.166E-05	1.160E+03	-7.287E-05
1.213E+03	-7.49E-05	1.290E+03	-7.571E-05	1.348E+03	-8.057E-05
1.397E+03	-8.097E-05	1.400E+03	-8.097E-05	1.518E+03	-8.138E-05
1.565E+03	-8.421E-05	1.672E+03	-8.664E-05	1.724E+03	-8.864E-05
1.785E+03	-8.704E-05	1.856E+03	-8.826E-05	1.912E+03	-8.894E-05
2.000E+03	-8.980E-05				
86	1	16	6		
6.043E-01	5.968E-05	7.508E-01	5.968E-05	8.719E-01	5.9847E-05
9.557E-01	5.645E-05	1.009E+00	5.823E-05	1.083E+00	5.121E-05
1.133E+00	4.556E-05	1.193E+00	4.932E-05	1.234E+00	3.427E-05
1.258E+00	2.661E-05	1.287E+00	1.855E-05	1.312E+00	1.250E-05
1.341E+00	4.435E-06	1.348E+00	5.065E-07	1.350E+00	0.
1.000E+01	0.				
87	1	33	11		
8.019E+02	-2.177E-02	8.605E+02	-3.624E-03	9.131E+02	-8.214E-04
9.578E+02	8.624E-03	1.041E+03	1.807E-02	1.052E+03	1.160E+02
1.100E+03	3.368E-02	1.140E+03	3.943E-02	1.184E+03	2.4641E-02
1.222E+03	5.092E-02	1.279E+03	5.667E-02	1.330E+03	6.242E-02
1.376E+03	6.489E-02	1.407E+03	6.653E-02	1.444E+03	6.858E-02
1.472E+03	6.859E-02	1.506E+03	6.776E-02	1.541E+03	6.776E-02
1.572E+03	6.571E-02	1.606E+03	6.83E-02	1.644E+03	5.832E-02
1.675E+03	1.133E-02	1.715E+03	4.764E-02	1.742E+03	4.271E-02
1.775E+03	3.655E-02	1.807E+03	3.203E-02	1.834E+03	2.505E-02
1.865E+03	1.725E-02	1.892E+03	1.232E-02	1.925E+03	5.339E-03
1.941E+03	1.643E-03	1.966E+03	-5.571E-03	1.995E+03	-1.150E-02
88	1	16	6		
6.011E-01	-5.172E-02	7.141E-01	-5.172E-02	8.010E-01	-5.051E-02
9.058E-01	-5.010E-02	9.699E-01	-4.977E-02	1.015E+00	-4.889E-02
1.067E+00	-4.687E-02	1.110E+00	-4.525E-02	1.147E+00	-4.323E-02
1.260E+00	-2.961E-02	1.279E+00	-1.14E-02	1.294E+00	-1.888E-03
1.310E+00	-4.848E-03	1.339E+00	0.	1.390E+00	0.
1.000E+01	0.				
89	1	2	1		
6.000E+02	6.938E+00	7.002E+03	5.989E+00		
61	2	2	1		
6.008E+02	1.203E+01	1.998E+03	1.203E+01		
51	3	2	1		
5.000E+02	1.600E+01	2.000E+03	1.600E+01		
92	1	23	8		



.8002E+02	.120	.9800E+02	.1142E-01	.9411E+02	.1142E-11
.7935E+02	.1061E-01	.1050E+03	.1012E-01	.1133E+03	.9472E-02
.1200E+03	.9024E-02	.1249E+02	.8455E-02	.1233E+03	.8130E-02
.1346E+03	.7764E-02	.1405E+03	.7236E-02	.1488E+07	.6301E-02
.1542E+03	.5225E-02	.1594E+03	.4756E-02	.1629E+03	.4065E-02
.1670E+03	.3293E-02	.1713E+03	.2154E-02	.1756E+03	.1260E-02
.1708E+03	.5691E-03	.1915E+03	.5090E-03	.1847E+03	.1585E-02
.1875E+03	.2724E-02	.1909E+03	.4187E-02	.1935E+03	.5610E-02
.1959E+03	.6707E-02	.1909E+03	.8089E-02	.2002E+03	.9919E-02
.6007E-01	0.	.6000E+00	0.	.1000E+01	0.
.8008E+02	.8753E-05	.8569E+02	.6743E-05	.9008E+02	.5808E-05
.9447E+02	.4581E-05	.9854E+02	.3640E-05	.1034E+03	.2740E-05
.1095E+03	.1963E-05	.1151E+03	.1472E-05	.1199E+03	.1186E-05
.1231E+03	.1268E-05	.1284E+03	.1431E-05	.131E+03	.1677E-05
.1418E+03	.1800E-05	.1493E+03	.2249E-05	.1591E+03	.2658E-05
.1625E+03	.3867E-05	.1704E+03	.3231E-05	.1767E+03	.3640E-05
.1816E+03	.3926E-05	.1876E+03	.4254E-05	.1919E+03	.4459E-05
.1997E+03	.4990E-05	.2002E+03	.4990E-05		
.6000E-01	0.	.1000E+01	0.		
.7980E+02	.1579E-01	.8330E+02	.1377E-01	.8826E+02	.1158E-01
.9285E+02	.5919E-02	.9728E+02	.3745E-02	.1027E+03	.7571E-02
.1083E+03	.6802E-02	.1135E+03	.6316E-02	.1163E+03	.6154E-02
.1270E+03	.5385E-02	.1327E+03	.5182E-02	.1382E+03	.4939E-02
.1419E+03	.4737E-02	.1469E+03	.4575E-02	.1545E+03	.4211E-02
.1673E+03	.3887E-02	.1747E+03	.3369E-02	.1802E+03	.2915E-02
.1862E+03	.2389E-02	.1905E+03	.1862E-02	.1933E+03	.1296E-02
.1967E+03	.7287E-03	.2001E+03	0.		
.6000E-01	0.	.1000E+01	0.		
.7995E+02	.2438E-03	.8369E+02	.2204E-03	.8831E+02	.1496E-03
.9245E+02	.1711E-03	.9756E+02	.1579E-03	.1011E+03	.1488E-03
.1062E+03	.1301E-03	.1108E+03	.1182E-03	.1170E+03	.1051E-03
.1213E+03	.9816E-04	.1260E+03	.9530E-04	.1302E+03	.9448E-04
.1343E+03	.5121E-04	.1398E+03	.9162E-04	.1437E+03	.9407E-04
.1478E+03	.9734E-04	.1544E+03	.1014E-03	.1580E+03	.1072E-03
.1636E+03	.1149E-03	.1693E+03	.1235E-03	.1737E+03	.1355E-03
.1801E+03	.1431E-03	.1847E+03	.1530E-03	.1900E+03	.1665E-03
.1933E+03	.1751E-03	.1998E+03	.1881E-03		
.6031E-01	.1046E-03	.7216E-01	.1034E-03	.8060E-01	.1034E-03
.8823E-01	.1014E-03	.9456E-01	.1002E-03	.1001E+00	.9737E-04
.1056E+00	.9495E-04	.1099E+00	.9019E-04	.1157E+00	.8566E-04
.1202E+00	.7960E-04	.1238E+00	.7192E-04	.1265E+00	.6586E-04
.1287E+00	.5576E-04	.1304E+00	.4727E-04	.1324E+00	.3636E-04
.1330E+00	.2667E-04	.1356E+00	.1737E-04	.1373E+00	.1051E-04
.1389E+00	.6048E-05	.1407E+00	0.	.1000E+01	0.
.7592E+02	.2150E+00	.8667E+02	.1955E+00	.9293E+02	.1858E+00
.9992E+02	.1724E+00	.1061E+03	.1639E+00	.1102E+03	.1582E+00
.1154E+03	.1521E+00	.1191E+03	.1497E+00	.1224E+03	.1481E+00
.1251E+03	.1485E+00	.1295E+03	.1485E+00	.1344E+03	.1485E+00
.1389E+03	.1497E+00	.1436E+03	.1517E+00	.1472E+03	.1533E+00
.1536E+03	.1566E+00	.1570E+03	.1590E+00	.1611E+03	.1611E+00
.1654E+03	.1654E+00	.1693E+03	.1671E+00	.1753E+03	.1732E+00
.1802E+03	.1761E+00	.1854E+03	.1813E+00	.1901E+03	.1866E+00
.1947E+03	.1907E+00	.2003E+03	.1959E+00		
.6000E-01	0.	.7423E-01	.1328E+00	.8000E-01	.1320E+00
.6618E-01	.1316E+00	.9073E-01	.1303E+00	.9602E-01	.1299E+00
.1010E+00	.1287E+00	.1054E+00	.1275E+00	.1098E+00	.1255E+00
.1144E+00	.1214E+00	.1184E+00	.1169E+00	.1215E+00	.1120E+00

.1249E+00	.1071E+00	.1276E+00	.9817E-01	.1306E+00	.8717E-01
.1332E+00	.7921E-01	.1354E+00	.6925E-01	.1386E+00	.5418E-01
.1403E+00	.4277E-01	.1424E+00	.3259E-01	.1450E+00	.2240E-01
.1465E+00	.1711E-01	.1485E+00	.9776E-02	.1505E+00	.5295E-02
.1522E+00	0.	.1000E+01	0.		
106	1	2	1		
.6000E+02	.6976E+00	.2002E+03	.6976E+00		
106	2	2	1		
.6000E+02	.1201E+01	.2002E+03	.1201E+01		
106	3	2	1		
.5504E+02	.1601E+01	.2002E+03	.1601E+01		
107	1	31	11		
.8000E+02	.1476E-03	.6400E+02	.1180E-03	.9800E+02	.9200E-04
.9200E+02	.7000E-04	.9600E+02	.5200E-04	.1000E+03	.3800E-04
.1040E+03	.2700E-04	.1080E+03	.1800E-04	.1120E+03	.9000E-05
.1160E+03	.2000E-05	.1200E+03	0.	.1240E+03	.2000E-05
.1280E+03	.8000E-05	.1320E+03	.1100E-04	.1360E+03	.2100E-04
.1400E+03	.2900E-04	.1440E+03	.7900E-04	.1480E+03	.5000E-04
.1520E+03	.6200E-04	.1560E+03	.7800E-04	.1600E+03	.9100E-04
.1640E+03	.1060E-03	.1680E+03	.1220E-03	.1720E+03	.1400E-03
.1760E+03	.1550E-03	.1800E+03	.1720E-03	.1840E+03	.1920E-03
.1880E+03	.2110E-03	.1920E+03	.2300E-03	.1960E+03	.2510E-03
.2000E+03	.2710E-03				
108	1	18	6		
.5997E-01	.6012E-04	.7746E-01	.5971E-04	.9682E-01	.5971E-04
.9349E-01	.5971E-04	.9902E-01	.5930E-04	.1033E+00	.5849E-04
.1076E+00	.5603E+00	.1108E+00	.5481E-04	.1158E+00	.4990E-04
.1205E+00	.4622E-04	.1248E+00	.3804E-04	.1266E+00	.3332E-04
.1315E+00	.2454E-04	.1347E+00	.1636E-04	.1379E+00	.8998E-05
.1400E+00	.6135E-05	.1423E+00	0.	.1000E+01	0.
109	1	38	13		
.7955E+02	.2504E+00	.8295E+02	.2248E+00	.9555E+02	.2033E+00
.8823E+02	.1813E+00	.9075E+02	.1654E+00	.9286E+02	.1484E+00
.9562E+02	.1297E+00	.9830E+02	.1150E+00	.1006E+03	.1004E+00
.1032E+03	.8821E-01	.1069E+03	.7764E-01	.1096E+03	.6992E-01
.1127E+03	.6829E-01	.1153E+03	.6707E-01	.1108E+03	.6707E-01
.1213E+03	.6789E-01	.1265E+03	.7398E-01	.1301E+03	.7805E-01
.1347E+03	.8496E-01	.1373E+03	.9187E-01	.1409E+03	.1016E+00
.1453E+03	.1134E+00	.1492E+03	.1215E+00	.1524E+03	.1389E+00
.1562E+03	.1439E+00	.1594E+03	.1537E+00	.1624E+03	.1650E+00
.1654E+03	.1732E+00	.1682E+03	.1850E+00	.1717E+03	.1976E+00
.1752E+03	.2134E+00	.1795E+03	.2305E+00	.1831E+03	.2472E+00
.1864E+03	.2608E+00	.1901E+03	.2797E+00	.1942E+03	.2959E+00
.1976E+03	.3128E+00	.1997E+03	.3224E+00		
110	1	18	6		
.5993E-01	.6150E-01	.7040E-01	.6113E-01	.8210E-01	.76073E-01
.9257E-01	.5993E-01	.9858E-01	.5951E-01	.1041E+00	.5830E-01
.1099E+00	.5587E-01	.1156E+00	.5182E-01	.1193E+00	.4737E-01
.1220E+00	.4211E-01	.1247E+00	.3482E-01	.1272E+00	.2834E-01
.1301E+00	.1903E-01	.1324E+00	.1134E-01	.1337E+00	.6478E-02
.1354E+00	.3644E-02	.1368E+00	0.	.1000E+01	0.
111	1	28	10		
.7963E+02	.9328E-04	.8393E+02	.1055E-03	.9083E+02	.1181E-03
.9789E+02	.1308E-03	.1032E+03	.1197E-03	.1093E+03	.1438E-03
.1149E+03	.1462E-03	.1185E+03	.1462E-03	.1231E+03	.1434E-03
.1268E+03	.1393E-03	.1310E+03	.1324E-03	.1347E+03	.1259E-03
.1368E+03	.1177E-03	.1429E+03	.1088E-03	.1463E+03	.9980E-04
.1503E+03	.8676E-04	.1528E+03	.7943E-04	.1548E+03	.7088E-04
.1661E+03	.3177E-04	.1700E+03	.1589E-04	.1726E+03	.6118E-05
.1750E+03	.6110E-05	.1779E+03	.1996E-04	.1819E+03	.3788E-04
.1857E+03	.5866E-04	.1896E+03	.7495E-04	.1937E+03	.9654E-04
.2001E+03	.1299E-03				
112	1	24	8		
.6000E-01	.2630E-03	.6500E-01	.2630E-03	.7000E-01	.2630E-03
.7500E-01	.2630E-03	.8000E-01	.2610E-03	.8500E-01	.2600E-03
.9000E-01	.2610E-03				

.1050E+00	.580E-03	.1100E+00	.250E-03	.1150E+00	.2500E-03
.1200E+00	.2420E-03	.1250E+00	.2320E-03	.1300E+00	.2180E-03
.1350E+00	.1990E-03	.1400E+00	.1580E-03	.1450E+00	.1310E-03
.1500E+00	.9800E-04	.1550E+00	.4900E-04	.1600E+00	.2000E-04
.1650E+00	.1300E-05	.1700E+00	0.	.1000E+01	0.
113	1	43	15		
.8005E+02	.3171E-01	.3371E+02	.5569E-01	.3769E+02	.7967E-01
.9183E+02	.1004E+00	.9605E+02	.1187E+00	.9923E+02	.1325E+00
.1516E+03	.1407E+00	.1514E+03	.1500E+00	.1069E+03	.1557E+00
.0979E+03	.1589E+00	.1123E+03	.1610E+00	.1164E+03	.1606E+00
.1194E+03	.1577E+00	.1235E+03	.1545E+00	.1258E+03	.1484E+00
.1287E+03	.1423E+00	.1328E+03	.1337E+00	.1351E+03	.1240E+00
.1322E+03	.1130E+00	.1408E+03	.1016E+00	.1438E+03	.9065E-01
.1469E+03	.7327E-01	.1497E+03	.6565E-01	.1510E+03	.5691E-01
.1536E+03	.4593E-01	.1568E+03	.3130E-01	.1588E+03	.2195E-01
.1612E+03	.8537E-02	.1634E+03	-.2033E-02	.1659E+03	-.1504E-01
.1690E+03	.3211E-01	.1716E+03	-.4634E-01	.1746E+03	-.6545E-01
.1768E+03	-.7805E-01	.1790E+03	-.9512E-01	.1809E+03	-.1033E+00
.1842E+03	-.1224E+00	.1860E+03	-.1370E+00	.1885E+03	-.1545E+00
.1911E+03	-.1707E+00	.1929E+03	-.1813E+00	.1959E+03	-.2024E+00
.1998E+03	-.2321E+00				
114	1	29	10		
.5990E-01	-.2635E+00	.7054E-01	.2635E+00	.7719E-01	-.2619E+00
.8295E-01	-.2619E+00	.9229E-01	-.2619E+00	.1000E+00	-.2611E+00
.1031E+00	-.2603E+00	.1081E+00	-.2574E+00	.1131E+00	-.2517E+00
.1173E+00	-.2456E+00	.1213E+00	-.2371E+00	.1242E+00	-.2305E+00
.1274E+00	-.2196E+00	.1308E+00	-.2061E+00	.1344E+00	-.1874E+00
.1373E+00	-.1674E+00	.1377E+00	-.1670E+00	.1417E+00	-.1360E+00
.1438E+00	-.1153E+00	.1458E+00	-.9613E-01	.1484E+00	-.7373E-01
.1500E+00	-.9580E-01	.1515E+00	-.3982E-01	.1528E+00	-.2770E-01
.1544E+00	-.1874E-01	.1558E+00	-.1141E-01	.1576E+00	-.6517E-02
.1594E+00	0.	.1000E+01	0.		
85	2	17	6		
.7569E+02	.7314E-05	.8278E+02	.5330E-05	.8684E+02	.3846E-05
.9220E+02	.1215E-05	.9561E+02	-.1619E-06	.9959E+02	-.1377E-05
.1025E+03	-.1498E-05	.1105E+03	-.1619E-05	.1201E+03	-.1660E-05
.1288E+03	-.1862E-05	.1392E+03	-.1984E-05	.1515E+03	-.2024E-05
.1614E+03	-.2146E-05	.1703E+03	-.2429E-05	.1793E+03	-.2429E-05
.1909E+03	-.2510E-05	.2002E+03	-.2672E-05		
86	2	20	7		
.6035E-01	.7500E-05	.7450E-01	.7500E-05	.9849E-01	.7500E-05
.9410E-01	.7500E-05	.9801E-01	.7339E-05	.1035E+00	.777E-05
.1079E+00	.6855E-05	.1115E+00	.6613E-05	.1154E+00	.6331E-05
.1194E+00	.6008E-05	.1234E+00	.5282E-05	.1270E+00	.4597E-05
.1296E+00	.3710E-05	.1314E+00	.2823E-05	.1343E+00	.1935E-05
.1368E+00	.1214E-05	.1392E+00	.5242E-06	.1418E+00	.8065E-07
.1420E+00	0.	.1000E+01	0.		
87	2	32	11		
.7571E+02	-.2349E-01	.8336E+02	.1592E-01	.8693E+02	-.1671E-01
.9042E+02	-.1429E-01	.9399E+02	-.1199E-01	.9643E+02	-.1055E-01
.9878E+02	-.5322E-02	.1011E+03	-.583E-02	.1040E+03	-.7310E-02
.1063E+03	-.6324E-02	.1088E+03	-.5544E-02	.1112E+03	-.4723E-02
.1139E+03	-.4271E-02	.1180E+03	-.3450E-02	.1224E+03	-.3121E-02
.1276E+03	-.2793E-02	.1312E+03	-.2546E-02	.1351E+03	-.2505E-02
.1380E+03	-.2546E-02	.1412E+03	-.2587E-02	.1450E+03	-.2752E-02
.1495E+03	-.2998E-02	.1520E+03	-.3244E-02	.1574E+03	-.3655E-02
.1664E+03	-.4764E-02	.1727E+03	-.5667E-02	.1791E+03	-.6612E-02
.1847E+03	-.7433E-02	.1885E+03	-.8214E-02	.1923E+03	-.8912E-02
.1955E+03	-.9405E-02	.1994E+03	-.1010E-01		
88	2	19	7		
.6003E-01	-.7192E-02	.6499E-01	-.7192E-02	.7002E-01	-.7192E-02
.7498E-01	-.7192E-02	.8002E-01	-.7192E-02	.8497E-01	-.7192E-02
.9001E-01	-.7192E-02	.9498E-01	-.7192E-02	.1000E+00	-.7111E-02
.1050E+00	-.6990E-02	.1100E+00	-.6788E-02	.1150E+00	-.6101E-02
.1200E+00	-.5697E-02	.1250E+00	-.4283E-02	.1300E+00	-.2788E-02
.1300E+00	-.3881E-02	.1400E+00		.1500E+00	

[illegible]

1.150E+00	-1.149E-04	1.406E+00	-9.100F-05	1.486E+00	-7.0E+00
1.503E+00	-5.911E-05	1.524E+00	-3.969E-05	1.546E+00	-2.275E-03
1.175E+00	-1.215E-05	1.589E+00	-6.073E-06	1.615E+00	0.
1.100E+01	0.				
2		31	11		
1.6073E-02	-6.073E-02	9.541E+02	-7.126E-02	8.899E+02	-7.916E-02
1.8704E-02	-8.704E-02	9.956E+02	-9.974E-02	9.866E+02	-1.024E-01
1.1073E-01	-1.107E-01	1.063E+03	-1.117E-01	1.099E+03	-1.126E-01
1.112E-01	-1.112E-01	1.180E+03	-1.057E-01	1.20E+03	-1.036E-01
1.5023E-02	-5.023E-02	1.307E+03	-8.957E-02	1.352E+03	-6.761E-02
1.5911E-02	-5.911E-02	1.425E+03	-5.563E-02	1.463E+03	-4.211E-02
1.3279E-02	-3.279E-02	1.557E+03	-1.619E-02	1.590E+03	-7.692E-03
1.4453E-03	-4.453E-03	1.677E+03	1.741E-02	1.720E+03	2.915E-02
1.633E+03	1.633E+03	1.799E+03	5.101E-02	1.841E+03	6.437E-02
1.156E+03	1.156E+03	1.908E+03	8.504E+02	1.945E+03	9.959E-02
1.187E+03	1.187E+03	1.914E+03	8.543E+02		
1.198E+03	1.126E+01				
59	2	25	10		
1.2201E-01	-2.201E-01	7.632E-01	-2.201E-01	8.682E-01	2.201E-01
1.2185E-01	-2.185E-01	9.788E-01	-2.177E-01	1.031E+00	2.165E-01
1.108E+00	1.108E+00	1.114E+00	2.081E-01	1.176E+00	2.080E-01
1.121E+00	1.196E-01	1.251E+00	1.307E-01	1.282E+00	1.823E-01
1.169E+00	1.698E-01	1.365E+00	1.541E-01	1.394E+00	1.300E-01
1.1243E-01	-1.243E-01	1.434E+00	1.103E-01	1.451E+00	9.658E-02
1.7847E-02	-7.847E-02	1.438E+00	5.996E-02	1.506E+00	3.682E-02
2.414E-02	-2.414E-02	1.546E+00	1.489E-02	1.566E+00	7.646E-03
1.4629E-03	-4.629E-03	1.601E+00	4.024E-04	1.600E+00	0.
100	2	24	8		
8.003E+02	8.003E+02	8.458E+02	8.139E-04	9.056E+02	7.812E-04
9.724E+02	9.724E+02	1.013E+03	7.362E-04	1.069E+03	7.259E-04
1.103E+03	1.103E+03	1.156E+03	1.715E-04	1.203E+03	7.239E-04
1.156E+03	1.748E-04	1.295E+03	7.853E-04	1.346E+03	8.057E-04
1.1404E+03	8.666E-04	1.457E+03	9.162E-04	1.523E+03	9.62E-04
1.154E+03	1.063E-03	1.652E+03	1.414E-03	1.707E+03	1.223E-03
1.156E+03	1.288E-03	1.807E+03	1.419E-03	1.857E+03	1.469E-03
1.1514E+03	1.595E-03	1.959E+03	1.669E-03	2.000E+03	1.746E-03
101	2	21	7		
5.902E-01	-1.131E-03	7.281E-01	-1.131E-03	8.068E-01	-1.131E-03
8.791E-01	-1.119E-03	9.261E-01	-1.115E-03	9.938E-01	-1.099E-03
1.058E+00	-1.071E-03	1.103E+00	-1.042E-03	1.158E+00	-9.737E-04
1.101E+00	-9.374E-04	1.286E+00	-8.768E-04	1.289E+00	-7.758E-04
1.1316E+00	-1.6707E-04	1.438E+00	-5.935E-04	1.363E+00	-4.162E-04
1.137E+00	-3.030E-04	1.403E+00	-1.939E-04	1.423E+00	-1.051E-04
1.140E+00	-4.444E-05	1.460E+00	0.	1.100E+01	0.
102	2	33	11		
8.000E+02	-6.531E-01	8.602E+02	-7.099E-01	9.130E+02	-7.748E-01
9.683E+02	-8.235E-01	1.017E+03	-8.641E-01	1.058E+02	-9.006E-01
1.089E+03	-9.128E-01	1.129E+03	-9.493E-01	1.173E+03	-9.533E-01
1.123E+03	-9.736E-01	1.271E+03	-9.777E-01	1.310E+03	-9.856E-01
1.149E+03	-1.006E+00	1.393E+03	-1.051E+0		

105	6033E+02	1065E+01	53	10	9801E+00
	7325E+02	5459E+00			7024E+02
	7927E+02	8727E+00			7700E+02
	8610E+02	8727E+00			8058E+00
	9415E+02	7035E+00			7149E+00
	1005E+03	6922E+00			6905E+00
	1072E+03	1026E+00			7166E+00
	1112E+03	8020E+00			7808E+00
	1140E+03	8451E+00			8337E+00
	1182E+03	8857E+00			8743E+00
	1231E+03	9105E+00			9012E+00
	1245E+03	9126E+00			9118E+00
	1250E+03	9105E+00			9126E+00
	1408E+03	9105E+00			9126E+00
	1496E+03	9105E+00			9109E+00
	1616E+03	9105E+00			9052E+00
	1733E+03	9105E+00			8906E+00
	1911E+03	9105E+00			1675E+00
	6008E+02	1205E+01			1850E+02
	7228E+02	1140E+01			1166E+01
	8220E+02	1086E+01			1118E+01
	9301E+02	1086E+01			1087E+01
	1020E+03	1086E+01			1079E+01
	1116E+03	1152E+01			1128E+01
	1192E+03	1200E+01			1188E+01
	1756E+03	1203E+01			1203E+01
105	6024E+02	1599E+01			
107	3000E+02	3280E+02			
	9200E+02	1610E+03			
	1040E+03	6900E+04			
	1160E+03	1900E+04			
	1280E+03	1800E+05			
	1400E+03	1400E+05			
	1520E+03	1400E+05			
	1640E+03	1400E+05			
	1760E+03	1100E+03			
	1800E+03	2680E+03			
	2000E+03	2310E+03			
108	6005E-01	1000E-04			
	9058E-01	1000E-04			
	1166E+00	1434E-04			
	1264E+00	4509E-05			
	1334E+00	3272E-05			
109	8275E+02	4293E+00			
	9042E+02	3244E+00			
	9643E+02	2533E+00			
	1037E+03	11907E+00			
	1104E+03	1451E+00			
	1190E+03	1220E+00			
	1271E+03	1264E+00			
	1401E+03	1423E+00			
	1554E+03	1663E+00			
	1696E+03	1939E+00			
	1854E+03	2268E+00			
	1900E+03	2549E+00			
110	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
111	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
112	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
113	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
114	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
115	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
116	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
117	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
118	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
119	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
120	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
121	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
122	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
123	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
124	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
125	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
126	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
127	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
128	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
129	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
130	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
131	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
132	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
133	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
134	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
135	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
136	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
137	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
138	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
139	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
140	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
141	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
142	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
143	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
144	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
145	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
146	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
147	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
148	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
149	5905E-01	2713E-01			
	1005E+00	2672E-01			
	1142E+00	2348E-01			
	1247E+00	1534E-01			
150	5905E-01	2713E-01			
	1005E+00	2672E-01			

.1320E+00	0.	2	.1000E+01	0.	.8709E+02	.1507E-04
.7971E+02	.4766E-04	22	.8231E+02	6	.1006E+03	-.2525E-04
.9107E+02	.2444E-05	9610E+02	-.1385E-04		.1177E+03	-.3951E-04
.1050E+03	-.3216E-04	.1098E+03	-.3910E-04		.1326E+03	-.5499E-04
.1265E+03	-.4644E-04	.1317E+03	-.4888E-04		.1541E+03	-.5051E-04
.1419E+03	-.5051E-04	.1494E+03	-.5051E-04		.1781E+03	-.4236E-04
.1659E+03	-.4847E-04	.1731E+03	-.4521E-04		.1939E+03	-.3361E-04
.1841E+03	-.4073E-04	.1899E+03	-.3707E-04			
.1998E+03	-.3055E-04					
.6000E-01	.1340E-03	24	.6500E-01	8	.7000E-01	.1340E-03
.7500E-01	.1340E-03	.8000E-01	.1340E-03		.8500E-01	.1330E-03
.9000E-01	.1320E-03	.9500E-01	.1310E-03		.1000E+00	.1220E-03
.1050E+00	.1290E-03	.1100E+00	.1270E-03		.1150E+00	.1200E-03
.1200E+00	.1150E-03	.1250E+00	.1040E-03		.1300E+00	.8700E-04
.1350E+00	.6900E-04	.1400E+00	.4200E-04		.1450E+00	.2100E-04
.1500E+00	.4000E-05	.1550E+00	0.		.1600E+00	0.
.1650E+00	0.	.1700E+00	0.		.1003E+01	0.
.7980E+02	.1545E+00	32	.8330E+02	11	.8761E+02	-.8577E-01
.9078E+02	-.5976E-01	.9395E+02	-.3740E-01		.9638E+02	-.1992E-01
.9890E+02	.5285E-02	.1004E+03	.8130E-02		.1032E+03	.2154E-01
.1067E+03	.3293E-01	.1103E+03	.3591E-01		.1141E+03	.4756E-01
.1177E+03	.5244E-01	.1206E+03	.5447E-01		.1237E+03	.5732E-01
.1291E+03	.5813E-01	.1326E+03	.5813E-01		.1375E+03	.5732E-01
.1410E+03	.5691E-01	.1447E+03	.5569E-01		.1490E+03	.5203E-01
.1529E+03	.5081E-01	.1568E+03	.4715E-01		.1620E+03	.8268E-01
.1675E+03	.3406E-01	.1729E+03	.2805E-01		.1774E+03	.2236E-01
.1818E+03	.1585E-01	.1868E+03	.8537E-02		.1923E+03	.2033E-02
.1960E+03	-.5285E-02	.1998E+03	-.1138E-01			
.5974E-01	-.1572E+00	25	.6997E-01	9	.7987E-01	-.1560E+00
.8553E-01	-.1552E+00	.8945E-01	-.1552E+00		.1000E+00	-.1536E+00
.1038E+00	-.1511E+00	.1088E+00	-.1491E+00		.1137E+00	-.1470E+00
.1178E+00	-.1426E+00	.1213E+00	-.1369E+00		.1248E+00	-.1271E+00
.1273E+00	-.1189E+00	.1292E+00	-.1079E+00		.1315E+00	-.9572E-01
.1334E+00	-.7902E-01	.1351E+00	-.6554E-01		.1367E+00	-.5458E-01
.1380E+00	-.4033E-01	.1393E+00	-.2933E-01		.1407E+00	-.2159E-01
.1422E+00	-.1303E-01	.1441E+00	-.6925E-02			0.
.1000E+01	0.	19	.5494E+00	7	.8257E+00	.1405E-02
.5000E+00	.8758E-03	.5494E+00	.1059E-02		.8002E+00	.1976E-02
.7036E+00	.1609E-02	.7551E+00	.1833E-02		.9552E+00	.2322E-02
.8578E+00	.2179E-02	.9065E+00	.2220E-02		.1100E+01	.2824E-02
.1014E+01	.2342E-02	.1055E+01	.2383E-02		.1251E+01	.2505E-02
.1155E+01	.2648E-02	.1211E+01	.2525E-02		.1849E+01	.2525E-02
.1322E+01	.2525E-02	.1621E+01	.2525E-02			
.2000E+01	.2525E-02					
.9318E+02	-.3984E+00	26	.9675E+02	9	.9968E+02	-.3182E+00
.1042E+03	-.2826E+00	.1083E+03	-.2437E+00		.1115E+03	-.2121E+00
.1157E+03	-.1773E+00	.1189E+03	-.1611E+00		.1227E+03	-.1522E+00
.1258E+03	-.1466E+00	.1302E+03	-.1441E+00		.1337E+03	-.1425E+00
.1414E+03	-.1425E+00	.1467E+03	-.1433E+00		.1500E+03	-.1433E+00
.1541E+03	-.1441E+00	.1591E+03	-.1441E+00		.1630E+03	-.1474E+00
.1668E+03	-.1490E+00	.1707E+03	-.1506E+00		.1760E+03	-.1530E+00
.1809E+03	-.1579E+00	.1862E+03	-.1619E+00		.1907E+03	-.1644E+00
.1955E+03	-.1700E+00	.2000E+03	-.1717E+00			
.2000E+00	0.	5	.1997E+00	2	.7633E+00	0.
.2000E+00	0.	.7600E+00	0.			
.6036E+02	.7006E+00	2	.2002E+03	1	.7006E+00	
.6003E+02	.1199E+01	2	.2002E+03	1	.1199E+01	

[illegible]



.1098E+03	-	.5237E+00	.1124E+03	-	.1245E+01	.1146E+03	-	.1390E+01
.1190E+03	-	.1703E+01	.1211E+03	-	.1791E+01	.1242E+03	-	.1839E+01
.1274E+03	-	.823E+01	.1325E+03	-	.1695E+01	.1391E+03	-	.1534E+01
.1462E+03	-	.1357E+01	.1528E+03	-	.1124E+01	.1659E+03	-	.6647E+00
.1731E+03	-	.3855E+00	.1791E+03	-	.1285E+00	.1649E+03	-	.1465E+00
.1917E+03	-	.4337E+00	.1968E+03	-	.7060E+00	.1999E+03	-	.6514E+00
115	2		45	15				
.5000E+00		.1365E-02	.5364E+00		.1324E-02	.5774E+00		.1263E-02
.6253E+00		.1161E-02	.6508E+00		.1120E-02	.6903E+00		.1039E-02
.7507E+00		.9165E-03	.7994E+00		.8554E-03	.8436E+00		.8147E-03
.8842E+00		.7332E-03	.8980E+00		.7332E-03	.9166E+00		.7739E-03
.9328E+00		.9165E-03	.9552E+00		.1161E-02	.9734E+00		.1365E-02
.9661E+00		.1731E-02	.1018E+01		.1894E-02	.1034E+01		.2077E-02
.1067E+01		.2240E-02	.1095E+01		.2546E-02	.1135E+01		.2749E-02
.1173E+01		.2892E-02	.1196E+01		.2974E-02	.1214E+01		.3035E-02
.1248E+01		.3035E-02	.1268E+01		.3035E-02	.1213E+01		.3035E-02
.1320E+01		.2994E-02	.1346E+01		.2974E-02	.1376E+01		.2831E-02
.1402E+01		.2729E-02	.1437E+01		.2505E-02	.1476E+01		.2220E-02
.1515E+01		.1976E-02	.1551E+01		.1670E-02	.1599E+01		.1283E-02
.1654E+01		.8554E-03	.1696E+01		.7536E-03	.1725E+01		.6517E-03
.1776E+01		.5092E-03	.1802E+01		.4961E-03	.1843E+01		.3055E-03
.1894E+01		.3055E-03	.1922E+01		.3055E-03	.2000E+01		.3055E-03
116	2		32	11				
.7994E+02		.6397E-01	.2530E+02		.6640E-01	.9025E+02		.7368E-01
.9504E+02		.7854E-01	.9984E+02		.8097E-01	.1024E+03		.8178E-01
.1065E+03		.8097E-01	.1106E+03		.7592E-01	.1140E+03		.7266E-01
.1174E+03		.6235E-01	.1201E+03		.5344E-01	.1231E+03		.4372E-01
.1272E+03		.2834E-01	.1314E+03		.1457E-01	.1349E+03		0.
.1387E+03		.1700E-01	.1419E+03		.2672E-01	.1453E+03		.4211E-01
.1493E+03		.6073E-01	.1543E+03		.3421E-01	.1645E+03		.1279E+00
.1668E+03		.1441E+00	.1700E+03		.1563E+00	.1726E+03		.1668E+00
.1760E+03		.1798E+00	.1800E+03		.1327E+00	.1835E+03		.2081E+00
.1868E+03		.2121E+00	.1902E+03		.2227E+00	.1925E+03		.2267E+00
.1950E+03		.2275E+00	.1999E+03		.2278E+00			
117	2		30	10				
.1997E+00		.1279E+00	.2233E+00		.1279E+00	.2501E+00		.1270E+00
.2749E+00		.1262E+00	.3001E+00		.1189E+00	.3245E+00		.1180E+00
.3497E+00		.1139E+00	.3701E+00		.1066E+00	.3928E+00		.1033E+00
.4022E+00		.1016E+00	.4144E+00		.9426E-01	.4278E+00		.8607E-01
.4469E+00		.7459E-01	.4616E+00		.6066E-01	.4811E+00		.4754E-01
.4941E+00		.3525E-01	.5100E+00		.1639E-01	.5222E+00		.4918E-02
.5360E+00		0.	.5510E+00		.1148E-01	.5641E+00		.1403E-01
.5836E+00		.2705E-01	.5998E+00		.2951E-01	.6153E+00		.3279E-01
.6348E+00		.4098E-01	.6600E+00		.4426E-01	.6840E+00		.5082E-01
.0606E+00		.5246E-01	.7336E+00		.5410E-01	.7613E+00		.5902E-01
119	1		2	1				
.6095E+02		.7027E+00	.2002E+03		.7027E+00			
119	2		2	1				
.6095E+02		.5025E+00	.2001E+03		.9025E+00			
119	3		2	1				
.6095E+02		.1602E+01	.2001E+03		.1602E+01			
121	2		31	11				
.7970E+02		.8249E+02	.8249E+02		.3028E-05	.8504E+02		.2390E-06
.8615E+02		.1753E-05	.9230E+02		.4622E-05	.9661E+02		.6295E-05
.1004E+03		.7331E-05	.1046E+03		.8127E-05	.1083E+03		.8446E-05
.1135E+03		.6605E-05	.1176E+03		.2606E-05	.1206E+03		.8367E-05
.1246E+03		.7888E-05	.1276E+03		.7171E-05	.1310E+03		.6534E-05
.1379E+03		.5020E-05	.1430E+03		.3108E-05	.1477E+03		.1195E-05
.1510E+03		.7960E-06	.1569E+03		.3108E-05	.1614E+03		.5020E-05
.1651E+03		.7490E-05	.1694E+03		.9960E-05	.1730E+03		.1243E-04
.1765E+03		.1450E-04	.1809E+03		.1721E-04	.1848E+03		.2000E-04
.1884E+03		.2223E-04	.1914E+03		.2454E-04	.1946E+03		.2733E-04
.1998E+03		.3050E-04						
122	2		39	13				
.8013E+02		.1968E-01	.9053E+02		.1752E-01	.8268E+02		.1224E-01
.9424E+02		.1437E-02	.9637E+02		.13920E-02	.9411E+02		.8400E-02

.9010E+02	.1920E-02	.9218E+02	.4400E-02	.9401E+02	.6640E-02
.9585E+02	.840E-02	.9048E+02	.1040E-01	.1005E+03	.1176E-01
.1035E+03	.136E-01	.1058E+03	.1524E-01	.1084E+03	.1472E-01
.1105E+03	.149E-01	.1128E+03	.1488E-01	.1172E+03	.1472E-01
.1213E+03	.1392E-01	.1233E+03	.1288E-01	.1291E+03	.1152E-01
.1329E+03	.936E-02	.1373E+03	.7520E-02	.1402E+03	.5600E-02
.1441E+03	.340E-02	.1476E+03	.6400E-03	.1511E+03	.1600E-02
.1547E+03	.4480E-02	.1578E+03	.7704E-02	.1606E+03	.1000E-01
.1673E+03	.1616E-01	.1702E+03	.1856E-01	.1743E+03	.2312E-01
.1776E+03	.2684E-01	.1802E+03	.2976E-01	.1838E+03	.3408E-01
.1868E+03	.2684E-01	.1896E+03	.436E-01	.2000E+03	.5600E-01
123	2	25	9		
.8008E+02	.2736E-03	.8367E+02	.1610E-04	.8972E+02	.2414E-03
.9546E+02	.4740E-03	.1013E+03	.5553E-03	.1076E+03	.6439E-03
.1103E+03	.6519E-03	.1137E+03	.6761E-03	.1175E+03	.6600E-03
.1211E+03	.6356E-03	.1271E+03	.5795E-03	.1332E+03	.4829E-03
.1374E+03	.3702E-03	.1416E+03	.2736E-03	.1454E+03	.1690E-03
.1501E+03	.4024E-04	.1533E+03	.1764E-03	.1597E+03	.2867E-03
.1661E+03	.5714E-03	.1712E+03	.8043E-03	.1780E+03	.1103E-02
.1852E+03	.1473E-02	.1908E+03	.1730E-02	.1951E+03	.1980E-02
.2002E+03	.2221E-02	31	11		
.7597E+02	.4000E+00	.8403E+02	.2000E+00	.8801E+02	.4800E-01
.9200E+02	.1040E+00	.9598E+02	.2320E+00	.1000E+03	.3200E+00
.1040E+03	.4000E+00	.1060E+03	.4240E+00	.1120E+03	.4480E+00
.1160E+03	.8000E+00	.1200E+03	.4720E+00	.1240E+03	.4240E+00
.1280E+03	.4000E+00	.1320E+03	.3840E+00	.1350E+03	.3200E+00
.1400E+03	.2400E+00	.1440E+03	.1920E+00	.1480E+03	.8800E-01
.1520E+03	0.	.1560E+03	.8800E-01	.1600E+03	.2000E+00
.1640E+03	.3040E+00	.1680E+03	.4000E+00	.1720E+03	.5440E+00
.1760E+03	.6800E+00	.1800E+03	.8001E+00	.1840E+03	.9440E+00
.1880E+03	.1104E+01	.1920E+03	.1232E+01	.1960E+03	.1472E+01
.2000E+03	.1590E+01	22	8		
.3018E+02	.1349E-04	.3917E+02	.1643E-04	.9737E+02	.1349E-04
.1076E+03	.1143E+03	.1143E+03	.6745E-05	.1189E+03	.5000E-05
.1234E+03	.3492E-05	.1283E+03	.8730E-06	.1332E+03	.2063E-05
.1378E+03	.3988E-05	.1420E+03	.6429E-05	.1466E+03	.8730E-05
.1509E+03	.1119E-04	.1572E+03	.1476E-04	.1614E+03	.1730E-04
.1650E+03	.1929E-04	.1701E+03	.2230E-04	.1761E+03	.2613E-04
.1814E+03	.2913E-04	.1883E+03	.3381E-04	.1932E+03	.3643E-04
.1998E+03	.4032E-04	16	6		
.7951E+02	.7952E-02	.8602E+02	.4930E-02	.9320E+02	.3499E-02
.9956E+02	.1431E-02	.1051E+03	.1590E-03	.1114E+03	.1590E-02
.1187E+03	.3161E-02	.1264E+03	.4851E-02	.1347E+03	.6918E-02
.1410E+03	.1793E-02	.1500E+03	.9861E-02	.1542E+03	.1050E-01
.1667E+03	.136E-01	.1730E+03	.1463E-01	.1816E+03	.1622E-01
.1895E+03	.1765E-01	.1953E+03	.1869E-01	.1998E+03	.1940E-01
127	2	35	12		
.8167E+02	.1157E-03	.8390E+02	.2942E-03	.8701E+02	.2386E-03
.9004E+02	.7237E-03	.9235E+02	.1010E-02	.9402E+02	.1392E-02
.9689E+02	.1638E-02	.9912E+02	.1781E-02	.1010E+03	.1932E-02
.1030E+03	.2060E-02	.1054E+03	.2131E-02	.1080E+03	.2147E-02
.1116E+03	.2331E-02	.1157E+03	.1988E-02	.1195E+03	.1861E-02
.1249E+03	.1022E-02	.1293E+03	.1384E-02	.1344E+03	.1082E-02
.1383E+03	.8580E-03	.1416E+03	.6215E-03	.1449E+03	.4056E-03
.1500E+03	.3976E-04	.1547E+03	.3499E-03	.1582E+03	.5885E-03
.1603E+03	.7237E-03	.1661E+03	.1192E-02	.1697E+03	.1559E-02
.1739E+03	.1924E-02	.1771E+03	.2195E-02	.1803E+03	.2449E-02
.1849E+03	.2895E-02	.1884E+03	.3276E-02	.1930E+03	.3675E-02
.1965E+03	.4024E-02	.1998E+03	.4437E-02		
128	2	20	7		
.8037E+02	.7631E+00	.8562E+02	.1606E+00	.8929E+02	.2329E+00
.9359E+02	.6667E+00	.9765E+02	.896E+00	.1009E+03	.1100E+01
.1042E+03	.1197E+01	.1074E+03	.1229E+01	.1111E+03	.1221E+01

114E+03	-	1213E+01	1286E+03	-9317E+00	137E+03	-7068E+00
1477E+03	-	3695E+00	1552E+03	-1124E+00	1632E+03	2008E+00
1724E+03	-	5703E+00	1796E+03	-8996E+00	1885E+03	1333E+01
1942E+03	-	1631E+01	1998E+03	1355E+01		
129						
2477E+00	1	4666E-02	2766E+00	4662E-02	3031E+00	4650E-02
3274E+00	1	4582E-02	3552E+00	4527E-02	3783E+00	4471E-02
3994E+00	1	4488E-02	4205E+00	4362E-02	4405E+00	4261E-02
4592E+00	1	4189E-02	4795E+00	4114E-02	5038E+00	4063E-02
5284E+00	1	3911E-02	5464E+00	3800E-02	5643E+00	3713E-02
5794E+00	1	3625E-02	5982E+00	3542E-02	6221E+00	3415E-02
6396E+00	1	3308E-02	6571E+00	3201E-02	6770E+00	3097E-02
6937E+00	1	2998E-02	7109E+00	2915E-02	7376E+00	2752E-02
130						
2653E+02	1	3024E+00	5179E+02	2628E+00	7155E+02	2336E+00
9315E+02	1	2009E+00	1077E+03	1785E+00	1195E+03	1619E+00
1325E+03	1	1403E+00	1460E+03	1201E+00	1583E+03	1029E+00
1703E+03	1	8366E-01	1849E+03	6164E-01	2013E+03	3763E-01
131						
1594E-02	1	1009E+01	9012E+00	1009E+01	2398E+01	1483E+01
132						
2652E-01	1	1501E+00	3364E-01	1645E+00	4018E-01	1780E+00
4715E-01	1	1964E+00	5269E-01	2140E+00	5811E-01	2323E+00
6211E-01	1	2547E+00	6664E-01	2818E+00	7071E-01	3056E+00
7359E-01	1	3297E+00	7748E-01	3641E+00	8027E-01	3944E+00
8386E-01	1	4232E+00	8681E-01	4636E+00	8960E-01	5277E+00
9263E-01	1	5780E+00	9589E-01	6355E+00	9837E-01	6850E+00
1012E+00	1	7425E+00	1049E+00	7904E+00	1087E+00	8407E+00
1117E+00	1	8798E+00	1153E+00	9134E+00	1195E+00	9485E+00
1232E+00	1	9733E+00	1278E+00	9868E+00	1323E+00	9940E+00
1365E+00	1	9972E+00	1400E+00	9988E+00	2000E+00	9988E+00
1000E+01	1					
133						
1801E+01	1	1001E+02	2300E+02	1001E+01	2318E+02	9372E+00
2351E+02	1	2389E+02	2389E+02	7644E+00	2430E+02	6617E+00
2471E+02	1	2509E+02	2509E+02	4849E+00	2543E+02	4186E+00
2573E+02	1	2614E+02	2614E+02	2779E+00	2649E+02	2142E+00
2680E+02	1	2717E+02	2717E+02	1139E+00	2745E+02	7963E-01
2778E+02	1	2797E+02	2797E+02	7963E-02	2800E+02	0.
4000E+03	0.					
134						
8000E+00	1	4719E+02	4719E+02	8000E+00	4970E+02	7963E+00
8096E+00	1	5599E+02	5599E+02	8255E+00	5905E+02	8446E+00
8200E+02	1	5455E+02	5455E+02	8988E+00	6746E+02	9299E+00
6957E+02	1	7124E+02	7124E+02	9841E+00	7347E+02	1018E+01
7606E+02	1	7817E+02	7817E+02	1104E+01	7984E+02	1138E+01
8127E+02	1	8267E+02	8267E+02	1206E+01	8466E+02	1250E+01
8617E+02	1	8741E+02	8741E+02	1321E+01	8872E+02	1359E+01
135						
2004E+00	1	5991E+00	2637E+00	3991E+00	2876E+00	9951E+00
3060E+00	1	9335E+00	3327E+00	9744E+00	3558E+00	9632E+00
3769E+00	1	5938E+00	3988E+00	9134E+00	4175E+00	8890E+00
4335E+00	1	8611E+00	4490E+00	8245E+00	4610E+00	8053E+00
4761E+00	1	7823E+00	4924E+00	7272E+00	5036E+00	6929E+00
5179E+00	1	6411E+00	5291E+00	6004E+00	5398E+00	5550E+00
5530E+00	1	5095E+00	5618E+00	4641E+00	5729E+00	4106E+00
5821E+00	1	3628E+00	5904E+00	3221E+00	5968E+00	2958E+00
6028E+00	1	2791E+00	6088E+00	2647E+00	6195E+00	2376E+00
6331E+00	1	2289E+00	6462E+00	2009E+00	6614E+00	1908E+00
6745E+00	1	1746E+00	6908E+00	1627E+00	7064E+00	1559E+00
136						
1000E-01	1	1000E-01	4600E+02	1000E-01	1200E+03	6400E-01
137						
5286E-01	0.	7480E-01	2506E-01	2626E-01	4575E-01	4615E-01
1078E+00	0.	1509E+00	7877E-01	9867E-01	9429E-01	1257E+00
			1290E+00	1902E+00	1325E+00	2282E+00

1468E+00	2737E+00	1575E+00	3199E+00	1695E+00	3597E+00
1794E+00	4122E+00	1898E+00	4679E+00	1957E+00	5156E+00
2104E+00	5674E+00	2232E+00	6223E+00	2407E+00	6764E+00
2530E+00	7210E+00	2725E+00	7599E+00	2924E+00	7926E+00
3135E+00	8276E+00	3366E+00	8602E+00	3625E+00	8449E+00
3839E+00	9072E+00	4157E+00	9318E+00	4484E+00	9454E+00
4882E+00	9676E+00	5255E+00	9740E+00	5562E+00	9867E+00
5508E+00	9915E+00	6274E+00	9931E+00	6635E+00	9963E+00
6594E+00	9947E+00	7324E+00	9947E+00	7631E+00	9939E+00
7897E+00	9833E+00	8207E+00	9780E+00	8677E+00	9621E+00
8563E+00	9405E+00	9345E+00	9223E+00	9755E+00	8992E+00
1007E+01	8745E+00	1039E+01	8483E+00	1069E+01	8264E+00
1097E+01	6045E+00	1130E+01	7767E+00	1161E+01	7528E+00
1193E+01	7202E+00	1224E+01	6859E+00	1254E+01	6557E+00
1201E+01	6302E+00	1309E+01	5963E+00	1347E+01	5570E+00
1382E+01	5180E+00	1399E+01	4997E+00		
1940E+02	1874E+01	1122E+03	1170E+01	2001E+03	5048E+00
3076E+01	4249E+00	4470E+01	4422E+00	5251E+01	4129E+00
6263E+01	3984E+00	7259E+01	3839E+00	8271E+01	3663E+00
9323E+01	3466E+00	1043E+02	3133E+00	1130E+02	2900E+00
1217E+02	2618E+00	1301E+02	2378E+00	1380E+02	2144E+00
1456E+02	1783E+00	1530E+02	1478E+00	1609E+02	1188E+00
1663E+02	7068E+01	1726E+02	4337E+01	1757E+02	2006E+01
1775E+02	7229E+02	1780E+02		1800E+03	0.
140	110E+01	1361E+01	1108E+01	2403E+01	1098E+01
0.	108E+01	4361E+01	1058E+01	5038E+01	1030E+01
3494E+01	5961E+00	6665E+01	9283E+00	7346E+01	8466E+00
5850E+01	7550E+00	8635E+01	6733E+00	9240E+01	5876E+00
8046E+01	9920E+00	1066E+01	3964E+00	1134E+00	3127E+00
9956E+01	2430E+00	1265E+01	1673E+00	1335E+00	1166E+00
1196E+00	6175E+01	1442E+00	3984E+01	1473E+00	2789E+01
1399E+00	0.	1000E+01	0.		
1556E+00	0.	1000E+01	0.		
141	6700E+00	1939E+01	0.	4002E+01	1199E+01
144	0.	3589E+01	5	7376E+01	6680E+00
0.	9940E+00	1368E+00	2832E+00	1635E+00	2008E+01
1013E+00	2481E+01	2137E+00	2990E+01	2333E+00	3412E+01
1506E+00	3682E+01	2711E+00	3881E+01	2679E+00	3944E+01
2508E+00	3054E+00	1002E+01	3980E+01		
3054E+00	1624E+03	2346E+01	2380E+03	2977E+03	2032E+01
3860E+03	1838E+01	4736E+01	4736E+03	5476E+03	1506E+01
5025E+03	1382E+01	6813E+03	1240E+01	7322E+03	1134E+01
7864E+03	1046E+01	8500E+03	3500E+00	9256E+03	8160E+00
9925E+03	7180E+00	1062E+04	5180E+00	1157E+04	4920E+00
1237E+04	4020E+00	1329E+04	2960E+00	1396E+04	2420E+00
1481E+04	1860E+00	1524E+04	1640E+00	1704E+04	8800E+01
1782E+04	5800E+01	1666E+04	3400E+01	1971E+04	8000E+02
2101E+04	6800E+01	2272E+04	3400E+01	2412E+04	5200E+01
2583E+04	9400E+01	2769E+04	7600E+01	2900E+04	8400E+01
3005E+04	0.	2863E+00	6	4612E+00	1180E+00
0.	2080E+00	3589E+00	5000E+01	1022E+01	4120E+00
6600E+00	5400E+00	1382E+01	6400E+00	1515E+01	7200E+00
1241E+01	1690E+01	1885E+01	9200E+00	2034E+01	9740E+00
2175E+01	1006E+01	2278E+01	1018E+01	2513E+01	1014E+01
4502E+01	1014E+01	1000E+02	1000E+01		
0.	1172E+01	2569E+00	1117E+01	2632E+00	1053E+01
2358E+00	1801E+01	3341E+00	9638E+00	3532E+00	9344E+00
3094E+00					

.421	.8352E+00	.4732E+00	.3123E+00	.4958E+00	.7301E+00
.5237E+00	.5750E+00	.5432E+00	.1005E+01	.5739E+00	.1061E+01
.5918E+00	.1100E+01	.6069E+00	.1136E+01	.6209E+00	.1172E+01
.6376E+00	.1222E+01	.6535E+00	.1275E+01		
146	1	19	7		
.8008E+02	.1483E-03	.8735E+02	.1904E-03	.9605E+02	.2505E-03
.1064E+03	.2986E-03	.1149E+03	.3066E-03	.1208E+03	.3085E-03
.1269E+03	.3146E-03	.1334E+03	.3126E-03	.1416E+03	.3048E-03
.1491E+03	.2828E-03	.1566E+03	.2445E-03	.1638E+03	.1984E-03
.1698E+03	.1463E-03	.1751E+03	.9218E-04	.1811E+03	.3607E-04
.1856E+03	.2204E-04	.1908E+03	.7415E-04	.1953E+03	.1463E-03
.2001E+03	.1984E-03				
147	1	20	7		
.5997E-01	.4185E-03	.7177E-01	.4195E-03	.8158E-01	.4185E-03
.8995E-01	.4185E-03	.9697E-01	.4067E-03	.1035E+00	.4028E-03
.1098E+00	.3831E-03	.1156E+00	.3615E-03	.1192E+00	.3418E-03
.1205E+00	.3222E-03	.1244E+00	.3065E-03	.1256E+00	.2475E-03
.1281E+00	.1984E-03	.1305E+00	.1395E-03	.1325E+00	.7269E-04
.1347E+00	.3340E-04	.1364E+00	.11965E-04	.1384E+00	.1965E-05
.1380E+00	0.	.1400E+01	0.		
148	1	22	8		
.7939E+02	.2052E-01	.8323E+02	.2244E-01	.8730E+02	.2409E-01
.9026E+02	.2581E-01	.9425E+02	.3697E-01	.9724E+02	.2794E-01
.1002E+03	.2038E-01	.1027E+03	.2682E-01	.1049E+03	.2882E-01
.1073E+03	.2870E-01	.1108E+03	.2790E-01	.1185E+03	.2577E-01
.1276E+03	.2244E-01	.1399E+03	.1784E-01	.1500E+03	.1407E-01
.1623E+03	.9130E-02	.1722E+03	.5291E-02	.1792E+03	.2445E-02
.1841E+03	.1603E-03	.1908E+03	.2124E-02	.1960E+03	.4289E-02
.2002E+03	.5892E-02				
149	1	21	7		
.6000E-01	.1760E-01	.6500E-01	.1750E-01	.7000E-01	.1730E-01
.7500E-01	.1720E-01	.8000E-01	.1710E-01	.8500E-01	.1700E-01
.9000E-01	.1690E-01	.9500E-01	.1680E-01	.1000E+00	.1670E-01
.1050E+00	.1650E-01	.1100E+00	.1610E-01	.1150E+00	.1590E-01
.1209E+00	.1520E-01	.1250E+00	.1440E-01	.1300E+00	.1260E-01
.1350E+00	.9500E-02	.1400E+00	.5200E-02	.1450E+00	.1700E-02
.1500E+00	0.	.1550E+00	0.	.1000E+01	0.
152	1	2	1		
.5989E+02	.7028E+00	.2000E+03	.7028E+00		
152	2	2	1		
.5997E+02	.9020E+00	.2002E+03	.9020E+00		
152	3	2	1		
.6005E+02	.1052E+01	.1998E+03	.1052E+01		
152	4	2	1		
.6005E+02	.1200E+01	.1998E+03	.1200E+01		
152	5	2	1		
.5997E+02	.1601E+01	.1998E+03	.1601E+01		
153	1	24	8		
.7976E+02	.3179E-03	.8415E+02	.2414E-03	.9038E+02	.1348E-03
.9461E+02	.6640E-04	.1008E+03	.1610E-04	.1067E+03	.8853E-04
.1108E+03	.1388E-03	.1152E+03	.1791E-03	.1191E+03	.2153E-03
.1239E+03	.2435E-03	.1269E+03	.2757E-03	.1330E+03	.2777E-03
.1359E+03	.2877E-03	.1403E+03	.2877E-03	.1453E+03	.2696E-03
.1515E+03	.2294E-03	.1594E+03	.1771E-03	.1692E+03	.1147E-03
.1753E+03	.6841E-04	.1807E+03	.3622E-04	.1848E+03	.1006E-04
.1889E+03	.3421E-04	.1928E+03	.5030E-04	.1998E+03	.9658E-04
154	1	18	6		
.6821E-01	.3214E-03	.7360E-01	.3134E-03	.8341E-01	.3054E-03
.9107E-01	.2974E-03	.9761E-01	.2874E-03	.1033E+00	.2754E-03
.1090E+00	.2675E-03	.1152E+00	.2415E-03	.1206E+00	.2196E-03
.1243E+00	.1876E-03	.1278E+00	.1537E-03	.1317E+00	.1078E-03
.1356E+00	.6788E-04	.1388E+00	.4192E-04	.1427E+00	.1397E-04
.1432E+00	.5988E-05	.1430E+00	0.	.1000E+01	0.
155	1	27	9		
.8341E+02	.1821E-01	.8557E+02	.1416E-01	.8804E+02	.1342E-01
.9043E+02	.6282E-02	.9284E+02	.2465E-02	.9474E+02	.7925E-04

.9721E+02	.2704E-02	.9936E+02	.5013E-02	.1016E+03	.5660E-02
.1037E+03	.2270E-02	.1063E+03	.9622E-02	.1096E+03	.1042E-01
.1149E+03	.1042E-01	.1108E+03	.9061E-02	.1240E+03	.8668E-02
.1290E+03	.8032E-02	.1360E+03	.6918E-02	.1428E+03	.5805E-02
.1495E+03	.4533E-02	.1553E+03	.3579E-02	.1606E+03	.1309E-02
.1670E+03	.8748E-03	.1745E+03	.6362E-03	.1809E+03	.1988E-02
.1879E+03	.3419E-02	.1945E+03	.4051E-02	.1996E+03	.5964E-02
.6022E-01	.8350E-02	.9263E-01	.8350E-02	.1000E+00	.8270E-02
.1092E+00	.8191E-02	.1147E+00	.7634E-02	.1266E+00	.4056E-02
.1298E+00	.2068E-02	.1321E+00	.1113E-02	.1355E+00	0.
.1000E+01	0.				
.8440E+02	.9800E-04	.9390E+02	.3600E-04	.1016E+03	.6000E-05
.1123E+03	.5800E-04	.1245E+03	.7400E-04	.1363E+03	.5400E-04
.1467E+03	.2000E-04	.1562E+03	.2200E-04	.1672E+03	.6200E-04
.1761E+03	.1020E-03	.1844E+03	.1480E-03	.1935E+03	.1880E-03
.2000E+03	.2300E-03				
.6015E-01	.2322E-03	.8010E-01	.2322E-03	.9334E-01	.2312E-03
.1033E+00	.2312E-03	.1114E+00	.2194E-03	.1189E+00	.2016E-03
.1256E+00	.1640E-03	.1297E+00	.1383E-03	.1315E+00	.1008E-03
.1338E+00	.7312E-04	.1370E+00	.4348E-04	.1402E+00	.3162E-04
.1432E+00	.1976E-04	.1454E+00	0.	.1000E+01	0.
.3022E+02	.5770E-02	.1002E+03	.5395E-02	.1096E+03	.5259E-02
.1220E+03	.5259E-02	.1312E+03	.5339E-02	.1443E+03	.5498E-02
.1530E+03	.5375E-02	.1604E+03	.5976E-02	.1707E+03	.6375E-02
.1808E+03	.6534E-02	.1896E+03	.6853E-02	.1997E+03	.7251E-02
.6040E-01	.1781E-01	.7809E-01	.1813E-01	.9482E-01	.1821E-01
.1076E+00	.1321E-01	.1126E+00	.1813E-01	.1193E+00	.1750E-01
.1333E+00	.1614E-01	.1208E+00	.1344E-01	.1325E+00	.1034E-01
.1265E+00	.6839E-02	.1402E+00	.4374E-02	.1434E+00	.2386E-02
.1460E+00	.1590E-02	.1477E+00	.1113E-02	.1509E+00	0.
.1000E+01	0.				
.7990E+02	.2854E-03	.8317E+02	.2136E-03	.9155E+02	.5190E-04
.9761E+02	.4391E-04	.1041E+03	.1457E-03	.1105E+03	.2156E-03
.1160E+03	.2794E-03	.1234E+03	.3333E-03	.1265E+03	.3433E-03
.1308E+03	.3473E-03	.1304E+03	.3453E-03	.1453E+03	.3253E-03
.1510E+03	.2934E-03	.1589E+03	.2656E-03	.1650E+03	.2236E-03
.1715E+03	.1677E-03	.1782E+03	.1098E-03	.1837E+03	.5389E-04
.1887E+03	.9980E-05	.1938E+03	.5938E-04	.1999E+03	.1397E-03
.6004E-01	.5972E-03	.9669E-01	.5972E-03	.1030E+00	.5972E-03
.1102E+00	.5472E-03	.1151E+00	.5711E-03	.1202E+00	.5531E-03
.1252E+00	.5070E-03	.1290E+00	.4369E-03	.1325E+00	.3407E-03
.1352E+00	.2766E-03	.1390E+00	.1743E-03	.1412E+00	.1182E-03
.1436E+00	.6413E-04	.1465E+00	.3803E-04	.1486E+00	0.
.1000E+01	0.				
.7974E+02	.1333E-01	.9557E+02	.6946E-02	.9011E+02	.3273E-02
.9439E+02	.1597E-03	.9912E+02	.3513E-02	.1036E+03	.5938E-02
.1067E+03	.6866E-02	.1190E+03	.7585E-02	.1143E+03	.7585E-02
.1203E+03	.4707E-03	.1270E+03	.5828E-02	.1333E+03	.5110E-02
.1395E+03	.4311E-02	.1463E+03	.3353E-02	.1522E+03	.2635E-02
.1598E+03	.1677E-02	.1679E+03	.1597E-03	.1749E+03	.9581E-03
.1812E+03	.1677E-02	.1897E+03	.3034E-02	.1959E+03	.4232E-02
.1998E+03	.5110E-02				
.5911E-01	.2000E-01	.7970E-01	.1982E-01	.9469E-01	.1920E-01
.1056E+00	.1873E-01	.1143E+00	.1865E-01	.1193E+00	.1817E-01
.1217E+00	.1737E-01	.1248E+00	.1614E-01	.1292E+00	.1347E-01
.1328E+00	.1100E-01	.1362E+00	.8207E-02	.1395E+00	.5657E-02
.1429E+00	.3745E-03	.1454E+00	.1471E-02	.1472E+00	.5662E-03

U.	1	17	6	0.
1594E+00	165	17	6	1000E+01
796E+02	1	17	6	1013E+03
1109E+03	1	17	6	1207E-03
1355E+03	1	17	6	1251E-03
1514E+03	1	17	6	1490E+03
1714E+03	1	17	6	1632E+03
1916E+03	1	17	6	1674E+03
1953E-03	1	17	6	1874E+03
5994E-01	1	17	6	1998E+03
9162E-01	1	17	6	1953E-03
1169E+00	1	17	6	1517E-03
1303E+00	1	17	6	1213E-03
1000E+01	1	17	6	1264E+00
7976E+02	1	17	6	1360E+00
9665E+02	1	17	6	0.
1060E+03	1	17	6	9683E-02
1299E+03	1	17	6	9174E+02
1527E+03	1	17	6	1203E+03
1767E+03	1	17	6	1203E+03
2000E+03	1	17	6	1548E-01
601E-01	1	17	6	1432E+03
1009E+00	1	17	6	1689E+03
1252E+00	1	17	6	1900E+03
1355E+00	1	17	6	9210E-01
1338E+00	1	17	6	8242E-02
1409E+00	1	17	6	1116E+00
7998E+02	1	17	6	1219E+00
1026E+03	1	17	6	1310E+00
1216E+03	1	17	6	1444E-02
1384E+03	1	17	6	1455E-02
1510E+03	1	17	6	1000E+01
1667E+03	1	17	6	0.
1844E+03	1	17	6	9577E+02
2006E+00	1	17	6	1157E+03
5975E-01	1	17	6	1326E+03
1053E+00	1	17	6	1473E+03
1168E+00	1	17	6	1012E-02
1284E+00	1	17	6	1604E+03
1374E+00	1	17	6	1799E-02
8022E+02	1	17	6	2000E+03
1105E+03	1	17	6	1843E+00
1392E+03	1	17	6	1364E+00
1638E+03	1	17	6	1569E+03
1821E+03	1	17	6	1764E+03
1947E+03	1	17	6	9779E-01
1592E+00	1	17	6	1903E+03
6032E-01	1	17	6	2036E+00
9992E-01	1	17	6	1521E+00
1176E+00	1	17	6	1151E+00
1249E+00	1	17	6	1151E+00
1000E+01	1	17	6	9819E-01
6010E+02	1	17	6	9980E-01
7017E+00	1	17	6	1115E+00
9024E+00	1	17	6	0.
6010E+02	1	17	6	9131E-01
177	1	17	6	1129E+00
177	1	17	6	1235E+00
177	1	17	6	1283E+00
177	1	17	6	1343E+00
177	1	17	6	0.

.600E+02	.1055E+01	.2006E+03	.1055E+01		
177	4	2	1		
.6026E+02	.1204E+01	.2002E+03	.1204E+01		
177	5	2	1		
.6018E+02	.1602E+01	.2001E+03	.1602E+01		
178	1	21	7		
.6078E+02	.1394E+03	.0907E+02	.1382E+03	.9697E+02	.7570E+03
1030E+03	.4566E+03	.1103E+03	.9761E+03	.1192E+03	.1076E+02
1296E+03	.1076E+02	.1347E+03	.1118E+02	.1392E+03	.1116E+02
1451E+03	.1076E+02	.1493E+03	.1050E+02	.1544E+03	.9163E+03
1595E+03	.0964E+03	.1634E+03	.8367E+03	.1702E+03	.6175E+03
1768E+03	.4781E+03	.1832E+03	.3386E+03	.1877E+03	.2986E+03
1915E+03	.1992E+03	.1949E+03	.7968E+04	.2000E+03	.7968E+04
179	1	12	4		
.6007E+01	.8000E+03	.7292E+01	.7600E+03	.8520E+01	.7000E+03
.9500E+01	.7800E+03	.1075E+00	.6200E+03	.1180E+00	.5600E+03
1230E+00	.5600E+03	.1264E+00	.4000E+03	.1308E+00	.2800E+03
.1392E+00	.4000E+04	.1390E+00	0.	.1000E+01	0.
180	1	10	4		
.8002E+02	.1800E+01	.1002E+03	.1840E+01	.1137E+03	.1600E+01
1283E+03	.1400E+01	.1394E+03	.1280E+01	.1567E+03	.1040E+01
1728E+03	.8400E+02	.1836E+03	.6000E+02	.1919E+03	.5600E+02
.2001E+03	.5200E+02				
181	1	16	6		
.5990E+01	.3770E+01	.7997E+01	.3770E+01	.9335E+01	.3770E+01
1001E+00	.3651E+01	.1091E+00	.3452E+01	.1151E+00	.3016E+01
1200E+00	.2778E+01	.1254E+00	.2222E+01	.1301E+00	.1587E+01
1348E+00	.1032E+01	.1398E+00	.5556E+02	.1444E+00	.5159E+02
.1477E+00	.3175E+02	.1522E+00	.7937E+03	.1520E+00	0.
1000E+01	0.				
182	1	24	8		
.7957E+02	.2401E+02	.8690E+02	.1032E+02	.9008E+02	.4563E+03
.9438E+02	.2183E+03	.1002E+03	.1171E+02	.1054E+03	.1766E+02
1098E+03	.2282E+02	.1137E+03	.2460E+02	.1188E+03	.2917E+02
1235E+03	.3155E+02	.1279E+03	.3214E+02	.1315E+03	.3254E+02
1363E+03	.3234E+02	.1405E+03	.3214E+02	.1467E+03	.3095E+02
1510E+03	.2956E+02	.1549E+03	.2837E+02	.1663E+03	.2183E+02
.1714E+03	.1885E+02	.1761E+03	.1607E+02	.1824E+03	.1032E+02
.1866E+03	.5357E+03	.1940E+03	.9921E+04	.1995E+03	.4167E+03
183	1	17	6		
.5983E+01	.1996E+02	.7922E+01	.1996E+02	.9134E+01	.1996E+02
.9916E+01	.1876E+02	.1064E+00	.1830E+02	.1108E+00	.1756E+02
1150E+00	.1617E+02	.1192E+00	.1437E+02	.1229E+00	.1238E+02
1251E+00	.1038E+02	.1277E+00	.7984E+03	.1308E+00	.5190E+03
.1342E+00	.3992E+03	.1374E+00	.2794E+03	.1423E+00	.1597E+03
.1420E+00	0.	.1000E+01	0.		
184	1	19	7		
.7931E+02	.1070E+00	.8330E+02	.8056E+01	.8745E+02	.5210E+01
.9194E+02	.2405E+01	.9597E+02	0.	.9972E+02	.1643E+01
1043E+03	.3567E+01	.1094E+03	.4409E+01	.1130E+03	.4810E+01
1201E+03	.4310E+01	.1267E+03	.4649E+01	.1324E+03	.4208E+01
1404E+03	.3768E+01	.1490E+03	.3086E+01	.1606E+03	.2244E+01
.1712E+03	.1443E+01	.1810E+03	.1042E+01	.1900E+03	.4310E+02
.1598E+03	.4008E+03				
185	1	13	5		
.6040E+01	.6032E+01	.7936E+01	.5952E+01	.9036E+01	.5714E+01
.1018E+00	.5516E+01	.1111E+00	.5238E+01	.1175E+00	.4683E+01
1253E+00	.4718E+01	.1310E+00	.3214E+01	.1371E+00	.1984E+01
.1425E+00	.9127E+02	.1464E+00	.4762E+02	.1500E+00	0.
1000E+01	0.				
186	1	23	8		
.8027E+02	.6800E+03	.8960E+02	.7009E+02	.9876E+02	.2020E+02
1083E+03	.3105E+02	.1171E+03	.4140E+02	.1250E+03	.4900E+02
1302E+03	.5620E+02	.1348E+03	.5660E+02	.1382E+03	.5840E+02
1407E+03	.5800E+02	.1450E+03	.5840E+02	.1495E+03	.5740E+02
.1533E+03	.5580E+02	.1574E+03	.5727E+02	.1614E+03	.4480E+02



187	1.167E+03	-4.16E-02	1.730E+03	1.36E-02	1.777E+03	-3.06E-02
	1.181E+03	-2.54E-02	1.185E+03	1.196E-02	1.191E+03	-1.490E-02
	1.193E+03	-7.60E-03	1.200E+03	3.20E-03		
188	6.02E-01	6.29E-02	8.01E-01	6.28E-02	8.95E-01	6.24E-02
	9.95E-01	6.20E-02	1.06E+00	6.10E-02	1.12E+00	6.04E-02
	1.17E+00	5.86E-02	1.20E+00	5.30E-02	1.24E+00	5.23E-02
	1.35E+00	4.72E-02	1.29E+00	4.21E-02	1.33E+00	3.86E-02
	1.35E+00	2.67E-02	1.37E+00	2.10E-02	1.39E+00	1.63E-02
	1.41E+00	1.20E-02	1.42E+00	8.61E-03	1.44E+00	6.49E-03
	1.46E+00	3.93E-03	1.48E+00	2.36E-03	1.50E+00	1.16E-03
189	3.08E+02	-8.69E-01	8.23E+02	-6.72E-01	8.78E+02	-4.42E-02
	9.10E+02	3.09E-01	9.36E+02	6.23E-01	9.65E+02	9.25E-01
	9.92E+02	1.10E+00	1.01E+03	1.25E+00	1.04E+03	1.36E+00
	1.17E+03	1.45E+00	1.09E+03	1.52E+00	1.13E+03	1.55E+00
	1.32E+03	1.56E+00	1.22E+03	1.54E+00	1.27E+03	1.51E+00
	1.46E+03	1.43E+00	1.37E+03	1.36E+00	1.41E+03	1.27E+00
	1.64E+03	1.15E+00	1.52E+03	1.03E+00	1.58E+03	9.36E-01
	1.84E+03	3.58E-01	1.70E+03	6.84E-01	1.74E+03	5.39E-01
190	6.04E-01	-1.95E+00	9.10E-01	-1.95E+00	1.00E+01	0.
	1.07E+00	-1.91E+00	1.13E+00	-1.85E+00	1.19E+00	-1.93E+00
	1.24E+00	-1.60E+00	1.31E+00	-1.47E+00	1.35E+00	-1.74E+00
	1.38E+00	-1.16E+00	1.41E+00	-9.56E-01	1.44E+00	-7.35E-01
	1.46E+00	-4.94E-01	1.48E+00	-3.55E-01	1.50E+00	-2.29E-01
	1.52E+00	-1.26E-01	1.54E+00	-6.71E-02	1.56E+00	-3.16E-02
	1.58E+00	-1.58E-02	1.58E+00	0.	1.00E+01	0.
191	8.06E+02	-6.69E-03	8.89E+02	-6.08E-04	9.51E+02	-1.21E-03
	9.90E+02	2.43E-03	1.05E+03	3.24E-03	1.09E+03	3.85E-03
	1.12E+03	4.05E-03	1.16E+03	4.05E-03	1.20E+03	3.44E-03
	1.28E+03	1.82E-03	1.36E+03	4.05E-04	1.46E+03	-4.05E-03
	1.58E+03	-9.31E-03	1.70E+03	-1.44E-02	1.82E+03	-1.94E-02
	1.90E+03	-2.35E-02	1.99E+03	-2.75E-02		
192	6.02E-01	-1.47E-02	7.88E-01	-1.42E-02	8.90E-01	-1.41E-02
	9.81E-01	-1.37E-02	1.03E+00	-1.31E-02	1.08E+00	-1.23E-02
	1.15E+00	-1.13E-02	1.20E+00	-9.74E-03	1.24E+00	-7.55E-03
	1.28E+00	-5.36E-03	1.31E+00	-2.78E-03	1.36E+00	-1.78E-03
	1.36E+00	-3.97E-04	1.37E+00	0.	1.00E+01	0.
193	8.14E+02	-4.89E-01	8.55E+02	-5.81E-01	9.04E+02	-6.73E-01
	9.90E+02	-7.61E-01	1.00E+03	-8.13E-01	1.05E+03	-8.61E-01
	1.09E+03	-8.89E-01	1.11E+03	-8.89E-01	1.14E+03	-8.89E-01
	1.17E+03	-8.89E-01	1.20E+03	-8.73E-01	1.26E+03	-8.13E-01
	1.32E+03	-7.53E-01	1.38E+03	-6.77E-01	1.42E+03	-6.13E-01
	1.47E+03	-4.77E-01	1.52E+03	-4.00E-01	1.54E+03	-3.64E-01
	1.61E+03	-1.64E-01	1.66E+03	-4.00E-03	1.71E+03	-1.72E-01
	1.75E+03	3.60E-01	1.79E+03	5.05E-01	1.86E+03	5.77E-01
	1.87E+03	8.53E-01	1.91E+03	1.03E+00	1.95E+03	1.20E+00
194	6.02E-01	1.49E+00	6.55E-01	1.49E+00	7.37E-01	1.49E+00
	9.96E-01	1.46E+00	8.61E-01	1.43E+00	9.28E-01	1.46E+00
	9.95E-01	1.46E+00	1.05E+00	1.43E+00	1.10E+00	1.39E+00
	1.15E+00	1.35E+00	1.17E+00	1.32E+00	1.20E+00	1.30E+00
	1.22E+00	1.28E+00	1.25E+00	1.19E+00	1.23E+00	1.14E+00
	1.30E+00	1.05E+00	1.32E+00	1.03E+00	1.38E+00	9.62E-01
	1.34E+00	9.18E-01	1.36E+00	8.50E-01	1.37E+00	7.95E-01
	1.39E+00	7.31E-01	1.41E+00	6.52E-01	1.42E+00	5.32E-01
	1.44E+00	4.53E-01	1.45E+00	4.21E-01	1.45E+00	3.80E-01
	1.47E+00	2.50E-01	1.48E+00	2.18E-01	1.48E+00	1.82E-01
	1.49E+00	1.51E-01	1.50E+00	1.27E-01	1.50E+00	1.15E-01

.151CF+00	.5542E-02	.1514E+00	.6362E-02	.1521E+00	.1590E-02
.1531E+00	.7952E-03	.1546E+00	0.	.1563E+00	0.
.1548E+00	0.	.1599E+00	0.	.1000E+01	0.
146	2	17	6		
.8112E+02	-.2425E-03	.8774E+02	-.1944E-03	.9533E+02	-.1603E-03
.1012E+03	-.1303E-03	.1092E+03	-.1082E-03	.1167E+03	-.9419E-04
.1226E+03	-.5419E-04	.1288E+03	-.1062E-03	.1355E+03	-.1222E-03
.1430E+03	-.1343E-03	.1513E+03	-.1583E-03	.1589E+03	-.1703E-03
.1680E+03	-.1944E-03	.1789E+03	-.2004E-03	.1864E+03	-.2144E-03
.1933E+03	-.2385E-03	.1998E+03	-.2485E-03		
147	2	12	4		
.6069E-01	-.9234E-04	.9242E-01	-.9234E-04	.1103E+00	-.8644E-04
.1159E+00	-.8055E-04	.1194E+00	-.7466E-04	.1213E+00	-.6483E-04
.1238E+00	-.4519E-04	.1258E+00	-.2554E-04	.1272E+00	-.9822E-05
.1290E+00	-.3929E-05	.1295E+00	0.	.1000E+01	0.
148	2	19	7		
.7971E+02	.8978E-02	.8642E+02	.7295E-02	.9465E+02	.5331E-02
.1014E+03	.4048E-02	.1096E+03	.3046E-02	.1158E+03	.2405E-02
.1202E+03	.2244E-02	.1236E+03	.2204E-02	.1282E+03	.2244E-02
.1337E+03	.2365E-02	.1397E+03	.3126E-02	.1472E+03	.3808E-02
.1557E+03	.5090E-02	.1617E+03	.6253E-02	.1690E+03	.7735E-02
.1763E+03	.9499E-02	.1823E+03	.1106E-01	.1906E+03	.1319E-01
.2000E+03	.1583E-01				
149	2	19	7		
.6000E-01	.7100E-02	.6500E-01	.7003E-02	.7000E-01	.7000E-02
.7500E-01	.7000E-02	.8000E-01	.6900E-02	.8500E-01	.6800E-02
.9000E-01	.6700E-02	.9500E-01	.6600E-02	.1000E+00	.6400E-02
.1050E+00	.6100E-02	.1100E+00	.6000E-02	.1150E+00	.5800E-02
.1200E+00	.5200E-02	.1250E+00	.6000E-02	.1300E+00	.2900E-02
.1350E+00	.1100E-02	.1400E+00	0.	.1450E+00	0.
.1000E+01	0.				
151	1	25	9		
.6045E+02	.5285E+00	.6675E+02	.5397E+00	.7264E+02	.5660E+00
.7774E+02	.5963E+00	.8068E+02	.6234E+00	.8459E+02	.6568E+00
.8177E+02	.6951E+00	.9176E+02	.7405E+00	.9494E+02	.7900E+00
.9685E+02	.8915E+00	.9900E+02	.8418E+00	.1010E+03	.8625E+00
.1037E+03	.8848E+00	.1064E+03	.8936E+00	.1090E+03	.8984E+00
.1098E+03	.5008E+00	.1123E+03	.8992E+00	.1152E+03	.8888E+00
.1173E+03	.8776E+00	.1198E+03	.8633E+00	.1226E+03	.8370E+00
.1247E+03	.8202E+00	.1271E+03	.8123E+00	.1303E+03	.8035E+00
.2000E+03	.8035E+00				
151	2	14	5		
.6053E+02	.7023E+00	.6539E+02	.7230E+00	.7153E+02	.7565E+00
.7694E+02	.7939E+00	.8124E+02	.8298E+00	.8602E+02	.8729E+00
.9056E+02	.9127E+00	.9534E+02	.9661E+00	.9892E+02	.1000E+01
.1012E+03	.1017E+01	.1040E+03	.1034E+01	.1065E+03	.1043E+01
.1699E+03	.1050E+01	.1999E+03	.1050E+01		
151	3	17	6		
.5639E+02	.8729E+00	.6197E+02	.8848E+00	.6922E+02	.9127E+00
.7360E+02	.9326E+00	.7742E+02	.9613E+00	.8076E+02	.9821E+00
.8435E+02	.1012E+01	.8730E+02	.1039E+01	.9064E+02	.1073E+01
.9335E+02	.1100E+01	.9630E+02	.1128E+01	.9908E+02	.1151E+01
.1019E+03	.1177E+01	.1043E+03	.1192E+01	.1068E+03	.1199E+01
.1103E+03	.1202E+01	.1999E+03	.1202E+01		
151	4	2	1		
.6029E+02	.1603E+01	.2002E+03	.1603E+01		
153	2	15	5		
.8040E+02	.9457E-04	.9046E+02	.9457E-04	.1009E+03	.1066E-03
.1110E+03	.1107E-03	.1210E+03	.1227E-03	.1308E+03	.1308E-03
.1419E+03	.1308E-03	.1510E+03	.1348E-03	.1609E+03	.1348E-03
.1669E+03	.1328E-03	.1729E+03	.1197E-03	.1811E+03	.1147E-03
.1894E+03	.1005E-03	.1933E+03	.8249E-04	.1998E+03	.7243E-04
154	2	15	5		
.6021E-01	.2375E-03	.7384E-01	.2295E-03	.8262E-01	.2236E-03
.9139E-01	.2176E-03	.1010E+00	.2096E-03	.1078E+00	.1936E-03
.1120E+00	.1416E-03	.1416E+00	.1717E-03	.1497E+00	.1497E-03

.1343E+00	.1218E-03	.1274E+00	.7984E-04	.1303E+00	.4990E-04
.1337E+00	.3194E-04	.1270E+00	0.	.1600E+01	0.
155	2	18	6		
.7943E+02	.1527E-01	.8541E+02	-.1097E-01	.9043E+02	-.9332E-02
.9514E+02	.5567E-02	.1019E+03	-.2306E-02	.1081E+03	-.1193E-02
.1147E+03	.7952E-04	.1217E+03	.7952E-03	.1297E+03	.1272E-02
.1380E+03	.1431E-02	.1455E+03	.1193E-02	.1549E+03	.9543E-03
.1627E+03	0.	.1710E+03	-.1272E-02	.1785E+03	-.2068E-02
.1866E+03	.3579E-02	.1941E+03	-.5249E-02	.1998E+03	-.6362E-02
156	2	16	6		
.6006E-01	.1956E-01	.9630E-01	-.1956E-01	.1070E+00	-.1922E-01
.1129E+00	.1093E-01	.1192E+00	-.1821E-01	.1246E+00	-.1686E-01
.1287E+00	.1495E-01	.1315E+00	-.1249E-01	.1336E+00	-.9384E-02
.1356E+00	.6521E-02	.1374E+00	-.4374E-02	.1395E+00	-.2783E-02
.1415E+00	.1670E-02	.1442E+00	-.7952E-03	.1464E+00	0.
.1000E+01	0.				
157	2	20	7		
.8432E+02	.1060E-03	.9398E+02	-.9000E-04	.1016E+03	.6000E-05
.1103E+03	.1080E-03	.1211E+03	.2200E-03	.1288E+03	.3140E-03
.1349E+03	.3020E-03	.1391E+03	.4260E-03	.1421E+03	.4520E-03
.1454E+03	.4780E-03	.1494E+03	.4900E-03	.1533E+03	.4840E-03
.1591E+03	.4440E-03	.1655E+03	.3860E-03	.1714E+03	.3160E-03
.1771E+03	.2460E-03	.1832E+03	.1720E-03	.1876E+03	.1100E-03
.1919E+03	.5400E-04	.1998E+03	-.6600E-04		
158	2	18	6		
.6015E-01	.5850E-03	.7100E-01	-.5771E-03	.7978E-01	-.5711E-03
.9079E-01	.5613E-03	.1013E+00	-.5573E-03	.1091E+00	-.5316E-03
.1154E+00	.5059E-03	.1211E+00	-.4664E-03	.1260E+00	-.4150E-03
.1286E+00	.3478E-03	.1312E+00	-.2806E-03	.1399E+00	-.1957E-03
.1324E+00	.1324E-03	.1381E+00	-.8696E-04	.1403E+00	-.5138E-04
.1422E+00	.2372E-04	.1453E+00	0.	.1000E+01	0.
159	2	18	6		
.7951E+02	.7570E-02	.8369E+02	.5657E-02	.8892E+02	.3108E-02
.9354E+02	.1275E-02	.9825E+02	-.6375E-03	.1026E+03	-.2390E-02
.1070E+03	.3347E-02	.1103E+03	.3984E-02	.1190E+03	-.4064E-02
.1287E+03	.3984E-02	.1373E+03	.3825E-02	.1446E+03	-.3745E-02
.1537E+03	.3426E-02	.1657E+03	.2709E-02	.1738E+03	-.2390E-02
.1809E+03	.2072E-02	.1901E+03	-.1594E-02	.1997E+03	-.1036E-02
160	2	17	6		
.6024E-01	.1320E-01	.7530E-01	.1304E-01	.8765E-01	.1260E-01
.9546E-01	.1238E-01	.1050E+00	.1185E-01	.1108E+00	-.1153E-01
.1105E+00	.1009E-01	.1235E+00	.1010E-01	.1280E+00	.9145E-02
.1321E+00	.7952E-02	.1354E+00	.6640E-02	.1388E+00	.4612E-02
.1414E+00	.3022E-02	.1441E+00	.1903E-02	.1468E+00	.9543E-03
.1508E+00	0.	.1000E+01	0.		
161	2	9	3		
.7990E+02	.2854E-03	.9163E+02	-.2475E-03	.1065E+03	-.1836E-03
.1211E+03	.1118E-03	.1412E+03	-.2994E-04	.1549E+03	.8391E-04
.1668E+03	.1118E-03	.1792E+03	.1756E-03	.2000E+03	.2934E-03
162	2	14	5		
.5996E-01	.2966E-03	.7401E-01	.2906E-03	.8990E-01	.2766E-03
.1014E+00	.2605E-03	.1131E+00	.2465E-03	.1214E+00	.2325E-03
.1276E+00	.2044E-03	.1324E+00	.1543E-03	.1356E+00	.1062E-03
.1398E+00	.5812E-04	.1412E+00	.3808E-04	.1434E+00	.1202E-04
.1453E+00	0.	.1000E+01	0.		
163	2	15	5		
.8026E+02	.1565E-01	.9410E+02	.1357E-01	.1077E+03	.1142E-01
.1188E+03	.9820E-02	.1313E+03	.8064E-02	.1404E+03	.6148E-02
.1501E+03	.4790E-02	.1566E+03	.2335E-02	.1620E+03	.5589E-03
.1678E+03	.1756E-02	.1735E+03	-.5589E-02	.1826E+03	-.9741E-02
.1891E+03	.1357E-01	.1934E+03	-.1629E-01	.1999E+03	-.2060E-01
164	2	20	7		
.5678E-01	.2343E-01	.7682E-01	-.2343E-01	.8520E-01	-.2335E-01
.9501E-01	.2311E-01	.1033E+00	-.2287E-01	.1114E+00	-.2207E-01
.1185E+00	.2127E-01	.1234E+00	-.2016E-01	.1272E+00	-.1896E-01
.1311E+00	.1641E-01	.1339E+00	-.1402E-01	.1363E+00	-.1155E-01

1.173E+00	-5163E-02	1394E+00	-653+E-02	1412E+00	-4542E-02
1.142E+00	-294E-02	1455E+00	-1195E-02	1484E+00	-3187E-03
1.180E+00	0.	1000E+01	0.		
169	2	28	10		
7959E+02	-2720E-02	8094E+02	-2684E-02	8262E+02	-2572E-02
8525E+02	-230E-02	8780E+02	-2180E-02	9035E+02	-1916E-02
9274E+02	-174E-02	9482E+02	-1540E-02	9769E+02	-1352E-02
9984E+02	-1200E-02	1023E+03	-1060E-02	1051E+03	-930E-03
1071E+03	-8680E-03	1092E+03	-8080E-03	1117E+03	-7840E-03
1175E+03	-7200E-03	1232E+03	-6360E-03	1305E+03	-5160E-03
1386E+03	-3840E-03	1474E+03	-2320E-03	1542E+03	-1040E-03
1601E+03	-2000E-05	1676E+03	-1360E-03	1740E+03	-2800E-03
1801E+03	3960E-03	1873E+03	-5280E-03	1939E+03	-6640E-03
2001E+03	8040E-03				
170	2	25	10		
2002E+00	-1341E-02	2429E+00	-1321E-02	2852E+00	-1289E-02
3259E+00	-1257E-02	3598E+00	-1174E-02	3941E+00	-1086E-02
4164E+00	-1014E-02	4372E+00	-8862E-03	4579E+00	-7585E-03
4747E+00	-6267E-03	4990E+00	-5070E-03	4982E+00	-3673E-03
5078E+00	-2076E-03	5162E+00	-1598E-04	5301E+00	-1477E-03
5413E+00	3234E-03	5536E+00	-4790E-03	5692E+00	-647E-03
5848E+00	7665E-03	5999E+00	-8663E-03	6147E+00	-9421E-03
6366E+00	1022E-02	6845E+00	-1074E-02	6845E+00	-1114E-02
7092E+00	1166E-02	7331E+00	-1206E-02	7523E+00	-1236E-02
7944E+00	1285E-02				
171	2	3	1		
5991E-01	0.	1390E+00	0.	1000E+01	0.
172	2	20	7		
8066E+02	-2239E+00	8405E+02	-1980E+00	8947E+02	-1678E+00
9450E+02	1418E+00	9936E+02	-1183E+00	1029E+03	-1042E+00
1066E+03	5095E-01	1102E+03	-7807E-01	1128E+03	-7082E-01
1181E+03	6117E-01	1234E+03	-5115E-01	1327E+03	-3380E-01
1416E+03	1690E-01	1498E+03	-2414E-02	1575E+03	-1328E-01
1673E+03	-3260E-01	1766E+03	-5231E-01	1856E+03	-6720E-01
1933E+03	-8330E-01	1994E+03	-9537E-01		
173	2	23	8		
1996E+00	4369E-01	2407E+00	-5291E-01	2723E+00	-6132E-01
3002E+00	6653E-01	3285E+00	-6854E-01	3473E+00	-6974E-01
3721E+00	6934E-01	3968E+00	-6693E-01	4275E+00	-5651E-01
4527E+00	4609E-01	4782E+00	-3287E-01	5022E+00	-1643E-01
5190E+00	3607E-02	5481E+00	-1964E-01	5697E+00	-4286E-01
5808E+00	-5371E-01	5956E+00	-6733E-01	6092E+00	-9176E-01
6271E+00	-5739E-01	6419E+00	-1090E+00	6571E+00	-1202E+00
6758E+00	-1339E+00	6994E+00	-1499E+00		
174	2	3	1		
6008E-01	0.	1356E+00	0.	1000E+01	0.
175	1	17	6		
5986E+02	6979E+00	1079E+03	-5979E+00	1098E+03	-7035E+00
1123E+03	7115E+00	1139E+03	-7283E+00	1156E+03	-7411E+00
1172E+03	7563E+00	1183E+03	-7715E+00	1195E+03	-7863E+00
1210E+03	7963E+00	1216E+03	-9099E+00	1231E+03	-8235E+00
1248E+03	8355E+00	1268E+03	-8443E+00	1291E+03	-8467E+00
1301E+03	8491E+00	1399E+03	-8483E+00		
176	2	16	6		
6010E+02	9020E+00	1079E+03	-9020E+00	1100E+03	-9028E+00
1119E+03	9108E+00	1135E+03	-9196E+00	1150E+03	-9340E+00
1163E+03	9460E+00	1175E+03	-9660E+00	1185E+03	-9836E+00
1199E+03	1000E+01	1221E+03	-1019E+01	1238E+03	-1032E+01
1259E+03	1040E+01	1276E+03	-1051E+01	1305E+03	-1049E+01
1597E+03	1048E+01				
176	3	12	4		
5966E+02	1101E+01	1092E+03	-1101E+01	1109E+03	-1108E+01
1138E+03	1118E+01	1159E+03	-1128E+01	1179E+03	-1145E+01
1199E+03	1160E+01	1233E+03	-1177E+01	1239E+03	-1188E+01
1259E+03	1195E+01	1284E+03	-1200E+01	1998E+03	-1200E+01
176	4	2	1		



157	2	15	5	
6048E-01	-1614E-02	3709E-01	-1614E-02	9195E-01
5944E-01	-1614E-02	1076E+00	-1594E-02	1135E+00
1179E+00	1535E-02	1222E+00	-1378E-02	1253E+00
1207E+00	-5059E-03	1315E+00	-5512E-04	1339E+00
11362E+00	-1773E-03	1410E+00	-1969E-04	1400E+00
1000E+01	0.			0.
188	2	12	4	
9006E+02	-7767E-01	8860E+02	-1613E-01	9593E+02
1010E+03	9457E-01	1041E+03	-9577E-01	1081E+03
1112E+03	9215E-01	1153E+03	-8612E-01	1191E+03
1459E+03	6048E-03	1710E+03	6720E-01	1999E+03
189	2	20	7	
6034E-01	1411E+00	7135E-01	1407E+00	8029E-01
8555E-01	1358E+00	994E-01	1336E+00	1083E+00
1151E+00	1217E+00	1216E+00	1119E+00	1261E+00
1310E+00	8617E-01	1350E+00	7273E-01	1380E+00
1406E+00	4465E-01	147E+00	2925E-01	1443E+00
1466E+00	1029E-01	1483E+00	5929E-02	1507E+00
1510E+00	0.	1000E+01	0.	0.
197	1	2	1	
6002E+02	6996E+00	1998E+03	6996E+00	9593E+02
197	2	2	1	
5994E+02	5028E+00	1937E+03	9012E+00	1191E+03
197	3	2	1	
6026E+02	1201E+01	1997E+03	1201E+01	1999E+03
197	4	2	1	
5994E+02	1598E+01	1997E+03	1594E+01	1999E+03
207	1	2	1	
5565E+02	7003E+00	1997E+03	7003E+00	1999E+03
207	2	2	1	
5977E+02	9006E+00	2001E+03	9006E+00	1999E+03
207	3	2	1	
5569E+02	1202E+01	1997E+03	1202E+01	1999E+03
207	4	2	1	
5937E+02	1603E+01	1996E+03	1603E+01	1999E+03
194	1	41	14	
8019E+02	1618E-03	8457E+02	1538E-03	8302E+02
8608E+02	1367E-03	8802E+02	1267E-02	9012E+02
9262E+02	1064E-03	9552E+02	9522E-04	9933E+02
1029E+03	6494E-04	1055E+03	5378E-04	1109E+03
1130E+03	3107E-04	1171E+03	8215E-04	1212E+03
1237E+03	3187E-05	1266E+03	0.	1281E+03
1304E+03	4382E-05	1378E+03	3586E-05	1353E+03
1377E+03	1993E-05	1408E+03	3584E-06	1438E+03
1471E+03	6773E-05	1518E+03	1315E-04	1568E+03
1591E+03	2396E-04	1617E+03	2669E-04	1635E+03
1667E+03	3709E-04	1710E+03	4582E-04	1742E+03
1784E+03	6016E-04	1826E+03	6773E-04	1859E+03
1891E+03	8287E-04	1926E+03	4964E-04	1943E+03
1969E+03	1016E-03	1994E+03	1076E-03	0.
195	1	31	11	
8010E+02	1006E-01	8421E+02	1669E-02	8904E+02
9399E+02	6465E-02	9722E+02	5172E-02	1013E+03
1064E+03	3315E-02	1097E+03	5505E-02	1120E+03
1148E+03	1535E-02	1200E+03	9697E-03	1213E+03
1246E+03	4044E-04	1280E+03	8015E-04	1310E+03
1363E+03	4046E-03	1417E+0	2732E-03	1453E+03
1491E+03	1293E-02	1530E+03	1355E-02	1593E+03
1520E+03	2384E-02	1658E+03	2909E-02	1691E+03
1732E+03	3388E-02	1766E+03	4364E-02	1815E+03
1461E+03	5616E-03	1898E+03	6343E-02	1959E+03
197E+03	7799E-02			
198	1	28	10	
9033E+02	5995E-04	9412E+02	7992E-04	8975E+02
9811E+02	3197E-04	9976E+02	1759E-04	1044E+03
				1799E+03

.1085E+03	-.2153E-04	.1146E+03	-.3835E-04	.1180E+03	-.4631E-04
.1207E+03	-.5355E-04	.1237E+03	-.5594E-04	.1269E+03	-.6154E-04
.1305E+03	-.5914E-04	.1344E+03	-.6435E-04	.1406E+03	-.8035E-04
.1422E+03	-.6955E-04	.1501E+03	-.4715E-04	.1557E+03	-.3916E-04
.1501E+03	-.3117E-04	.1670E+03	-.2239E-04	.1716E+03	-.1838E-04
.1741E+03	-.1598E-04	.1800E+03	-.7992E-05	.1852E+03	-.9590E-05
.1880E+03	.1670E-04	.1928E+03	.2637E-04	.1966E+03	.3516E-04
.1977E+03	.4156E-04				
199		22	8		
.8243E+02	-.5130E-02	.8834E+02	-.3327E-02	.9760E+02	-.8417E-03
.1053E+03	.8814E-03	.1117E+03	.2204E-02	.1155E+03	.2685E-02
.1189E+03	.3527E-02	.1214E+03	.3768E-02	.1244E+03	.4048E-02
.1292E+03	.4449E-02	.1338E+03	.4088E-02	.1385E+03	.3647E-02
.1311E+03	.3367E-02	.1518E+03	.2605E-02	.1597E+03	.1764E-02
.1688E+03	.1162E-02	.1695E+03	.6413E-03	.1766E+03	-.3607E-03
.1845E+03	-.1403E-02	.1921E+03	-.2766E-02	.1971E+03	-.3447E-02
.1998E+03	-.4043E-02				
200		14	5		
.8019E+02	.7649E-04	.9000E+02	.6135E-04	.9988E+02	.4303E-04
.1099E+03	.2231E-04	.1196E+03	.3944E-05	.1299E+03	-.2231E-04
.1397E+03	.3665E-04	.1499E+03	-.5179E-04	.1559E+03	-.6454E-04
.1655E+03	-.8207E-04	.1776E+03	-.1052E-03	.1851E+03	-.1179E-03
.1925E+03	-.1371E-03	.1998E+03	-.1450E-03		
201		17	6		
.9016E+02	-.3546E-02	.9980E+02	-.2550E-02	.9546E+02	-.1912E-02
.1000E+03	-.1394E-02	.1052E+03	-.9562E-03	.1096E+03	-.5578E-03
.1147E+03	.3984E-04	.1235E+03	.3586E-03	.1346E+03	.1195E-02
.1377E+03	.1633E-02	.1522E+03	.2151E-02	.1535E+03	.2351E-02
.1675E+03	.2629E-02	.1768E+03	.3108E-02	.1848E+03	.3586E-02
.1526E+03	.3984E-02	.2002E+03	.4064E-02		
202		21	7		
.7995E+02	.8175E-04	.8666E+02	.5317E-04	.9185E+02	.2619E-04
.9856E+02	-.3560E-05	.1039E+03	-.2143E-04	.1079E+03	-.3492E-04
.1125E+03	-.5556E-04	.1158E+03	-.6270E-04	.1270E+03	-.8254E-04
.1291E+03	-.8413E-04	.1324E+03	-.8016E-04	.1381E+03	-.6905E-04
.1439E+03	-.5556E-04	.1506E+03	-.4206E-04	.1588E+03	-.2222E-04
.1636E+03	.7937E-05	.1703E+03	.1271E-04	.1783E+03	.3571E-04
.1850E+03	.3794E-04	.1924E+03	.8571E-04	.2000E+03	.1167E-03
203		29	10		
.8355E+02	-.4990E-02	.8995E+02	-.3050E-02	.9641E+02	-.1228E-02
.1006E+03	.1140E+03	.1051E+03	.1188E-02	.1100E+03	.2297E-02
.1233E+03	.3889E-02	.1177E+03	.3963E-02	.1206E+03	.4396E-02
.1301E+03	.4752E-02	.1262E+03	.5030E-02	.1281E+03	.5267E-02
.1394E+03	.5307E-02	.1330E+03	.4950E-02	.1359E+03	.4792E-02
.1517E+03	.2051E-02	.1429E+03	.4158E-02	.1473E+03	.3604E-02
.1636E+03	.5941E-03	.1577E+03	.1782E-02	.1614E+03	.9505E-03
.1806E+03	-.3050E-02	.1691E+03	-.5545E-03	.1750E+03	-.1861E-02
.1963E+03	-.7168E-02	.1857E+03	-.4277E-02	.1913E+03	-.5663E-02
204		31	11		
.7962E+02	.6190E-03	.8352E+02	.4802E-03	.8782E+02	.3552E-03
.9180E+02	.2262E-03	.9682E+02	.7143E-04	.1015E+03	-.6548E-04
.1063E+03	-.1786E-03	.1101E+03	-.2734E-03	.1136E+03	-.3532E-03
.1179E+03	-.4206E-03	.1201E+03	-.4645E-03	.1229E+03	-.4980E-03
.1263E+03	-.5198E-03	.1306E+03	-.5437E-03	.1333E+03	-.5536E-03
.1362E+03	-.5456E-03	.1404E+03	-.5437E-03	.1455E+03	-.5159E-03
.1498E+03	-.4960E-03	.1535E+03	-.4504E-03	.1584E+03	-.4008E-03
.1613E+03	-.3611E-03	.1636E+03	-.3274E-03	.1689E+03	-.2440E-03
.1744E+03	-.1567E-03	.1787E+03	-.7736E-04	.1822E+03	-.1984E-05
.1864E+03	.6746E-04	.1900E+03	.1389E-03	.1953E+03	-.2500E-03
.1997E+03	.3254E-03				
205		19	7		
.8029E+02	-.1041E+00	.8626E+02	-.9211E-01	.9247E+02	-.7611E-01
.9853E+02	-.6607E-01	.1042E+03	-.5503E-01	.1095E+03	-.4320E-01
.1151E+03	-.314E-01	.1268E+03	-.1637E-01	.1298E+03	-.1332E-01
.1211E+03	-.444E-01	.1304E+03	-.0104E-01	.1444E+03	.1187E-01

.1333E+03	.6509E-02	.1619E+03	.1181E-01	.1688E+03	.1538E-01
.1795E+03	.1992E-01	.1876E+03	.2300E-01	.1938E+03	.2544E-01
.1998E+03	.2564E-01				
208	1	26	9		
.8026E+02	-.2505E-03	.8932E+02	-.1312E-03	.9134E+02	-.2783E-04
.9645E+02	.5169E-04	.1034E+03	.1630E-03	.1118E+03	.2664E-03
.1166E+03	.3340E-03	.1214E+03	.3777E-03	.1244E+03	.3857E-03
.1245E+03	.4175E-03	.1284E+03	.4175E-03	.1305E+03	.3976E-03
.1300E+03	.4936E-03	.1394E+03	.3618E-03	.1442E+03	.3141E-03
.1503E+03	.2266E-03	.1544E+03	.1710E-03	.1596E+03	.7952E-04
.1619E+03	.3579E-04	.1663E+03	-.5964E-04	.1738E+03	.1629E-03
.1807E+03	-.3380E-03	.1864E+03	-.4453E-03	.1919E+03	-.5765E-03
.1966E+03	-.6561E-03	.1999E+03	-.7834E-03		
209	1	27	9		
.8021E+02	.1825E+00	.8404E+02	.1590E+00	.9066E+02	.1243E+00
.9681E+02	.5044E-01	.1025E+03	.5777E-01	.1093E+03	.2311E-01
.1137E+03	.4382E-02	.1177E+03	.1594E-01	.1209E+03	.2430E-01
.1232E+03	-.3147E-01	.1246E+03	-.3546E-01	.1268E+03	-.3984E-01
.1282E+03	-.4223E-01	.1299E+03	-.4382E-01	.1322E+03	-.4502E-01
.1354E+03	-.4542E-01	.1399E+03	-.4183E-01	.1461E+03	-.3525E-01
.1540E+03	-.2869E-01	.1616E+03	-.2032E-01	.1691E+03	-.7968E-02
.1749E+03	-.2789E-02	.1826E+03	.1394E-01	.1866E+03	.2311E-01
.1932E+03	.3307E-01	.1970E+03	.3944E-01	.2001E+03	.4741E-01
210	1	31	11		
.3163E+02	-.4810E-03	.8497E+02	-.2846E-03	.9768E+02	-.1283E-03
.8263E+02	.1202E-03	.9693E+02	.2826E-03	.9876E+02	.3928E-03
.1004E+03	.4248E-03	.1035E+03	.5210E-03	.1061E+03	.5611E-03
.1085E+03	.5651E-03	.1114E+03	.5611E-03	.1146E+03	.5331E-03
.1185E+03	.4770E-03	.1231E+03	.4008E-03	.1254E+03	.3527E-03
.1291E+03	.2884E-03	.1328E+03	.2044E-03	.1391E+03	.5611E-04
.1311E+03	-.5611E-04	.1475E+03	-.1663E-03	.1513E+03	-.2565E-03
.1539E+03	-.3447E-03	.1576E+03	.4369E-03	.1668E+03	-.7575E-03
.1727E+03	-.5579E-03	.1735E+03	.1118E-02	.1813E+03	-.1271E-02
.1852E+03	-.1391E-02	.1897E+03	-.1571E-02	.1948E+03	-.1764E-02
.2002E+03	-.1972E-02				
211	1	31	11		
.8000E+02	.3500E+00	.8400E+02	.3140E+00	.8800E+02	.2790E+00
.9200E+02	.2430E+00	.9600E+02	.2090E+00	.1000E+03	.1750E+00
.1040E+03	.1420E+00	.1080E+03	.1080E+00	.1120E+03	.7600E-01
.1160E+03	.4300E-01	.1200E+03	.1200E-01	.1240E+03	-.1500E-01
.1280E+03	-.4300E-01	.1320E+03	-.6300E-01	.1360E+03	-.7000E-01
.1400E+03	-.7100E-01	.1440E+03	-.6900E-01	.1480E+03	-.6100E-01
.1520E+03	-.5500E-01	.1560E+03	-.4780E-01	.1600E+03	-.3600E-01
.1640E+03	-.2600E-01	.1680E+03	-.1600E-01	.1720E+03	-.2000E-02
.1760E+03	.1000E-01	.1800E+03	.2200E-01	.1840E+03	.3300E-01
.1880E+03	.4900E-01	.1920E+03	.6100E-01	.1960E+03	.7400E-01
.2000E+03	.5100E-01				
212	1	29	10		
.8317E+02	-.4580E-03	.8939E+02	-.2829E-03	.9625E+02	-.9163E-04
.1034E+03	.1076E-03	.1090E+03	.2629E-03	.1131E+03	.3307E-03
.1169E+03	.4064E-03	.1210E+03	.4781E-03	.1246E+03	.5100E-03
.1274E+03	.5139E-03	.1307E+03	.4861E-03	.1344E+03	.4223E-03
.1388E+03	.3187E-03	.1428E+03	.2072E-03	.1466E+03	.7968E-04
.1508E+03	-.4781E-04	.1538E+03	-.1713E-03	.1551E+03	-.2510E-03
.1608E+03	-.3426E-03	.1600E+03	-.4303E-03	.1677E+03	-.7928E-03
.1730E+03	-.1012E-02	.1767E+03	-.1195E-02	.1809E+03	-.1426E-02
.1845E+03	-.1625E-02	.1885E+03	-.1809E-02	.1934E+03	-.2064E-02
.1966E+03	-.2255E-02	.2001E+03	-.2458E-02		
213	1	28	10		
.8003E+02	.2725E+00	.8481E+02	.2425E+00	.8792E+02	.2261E+00
.9079E+02	.2068E+00	.9446E+02	.1656E+00	.9725E+02	.1675E+00
.1012E+03	.1455E+00	.1047E+03	.1255E+00	.1084E+03	.1054E+00
.1124E+03	.8417E-01	.1157E+03	.6814E-01	.1191E+03	.5210E-01
.1234E+03	.2367E-01	.1267E+03	.1267E-01	.1295E+03	.1242E-01
.1355E+03	.2044E-02	.1374E+03	-.7214E-02	.1406E+03	-.9218E-02
.1477E+03	-.1825E-02				



.1574E+03	-.1033E-02	.1564E+03	.5417E-02	.1720E+03	.1723E-01
.1807E+03	.2565E-01	.1860E+03	.3407E-01	.1920E+03	.4210E-01
.1598E+03	.5611E-01				
194	2	41	14		
.7995E+02	-.8327E-04	.8366E+02	-.6534E-04	.8745E+02	-.4960E-04
.9230E+02	-.2869E-04	.9665E+02	-.1755E-04	.9867E+02	-.6773E-05
.1014E+03	.2390E-05	.1033E+03	.7570E-05	.1066E+03	.1394E-04
.1094E+02	.1594E-04	.1100E+03	.1753E-04	.1114E+03	.1753E-04
.1130E+03	.1753E-04	.1152E+03	.1755E-04	.1172E+03	.1514E-04
.1193E+03	.1195E-04	.1220E+03	.1195E-04	.1238E+03	.7968E-05
.1269E+01	.1594E-05	.1299E+03	-.4781E-05	.1330E+03	-.1195E-04
.1365E+03	-.2191E-04	.1409E+03	-.3307E-04	.1447E+03	-.6303E-04
.1486E+03	-.5374E-04	.1520E+03	-.5375E-04	.1559E+03	-.7410E-04
.1603E+03	-.8964E-04	.1643E+03	-.1024E-03	.1670E+03	-.1131E-03
.1708E+03	-.1215E-03	.1734E+03	.1359E-03	.1781E+03	.1510E-03
.1807E+03	-.1610E-03	.1842E+03	-.1721E-03	.1875E+03	-.1861E-03
.1911E+03	-.2002E-03	.1935E+03	-.2115E-03	.1965E+03	-.2255E-03
.1998E+03	-.2307E-03	.2063E+03	-.2347E-03		
195	2	24	8		
.8025E+02	.6182E-02	.8445E+02	.5172E-02	.8920E+02	.4121E-02
.9355E+02	.3232E-02	.9726E+02	.2182E-02	.1019E+03	.1737E-02
.1054E+03	.1374E-02	.1089E+03	.1051E-02	.1128E+03	.1131E-02
.1189E+03	.1293E-02	.1255E+03	.1810E-02	.1307E+03	.2182E-02
.1368E+02	.3830E-02	.1423E+03	.3717E-02	.1483E+03	.4566E-02
.1531E+03	.5172E-02	.1588E+03	.6303E-02	.1653E+03	.7192E-02
.1691E+03	.7888E-02	.1750E+03	.8727E-02	.1815E+03	.9810E-02
.1860E+03	.1079E-01	.1934E+03	.1184E-01	.1996E+03	.1325E-01
198	2	29	10		
.7997E+02	-.3277E-04	.8444E+02	-.5275E-04	.8947E+02	-.7433E-04
.9425E+02	-.9031E-04	.9976E+02	-.1063E-03	.1023E+03	-.1143E-03
.1051E+03	-.1199E-03	.1069E+03	-.1231E-03	.1089E+03	-.1247E-03
.1104E+03	-.1263E-03	.1122E+03	-.1231E-03	.1141E+03	-.1147E-03
.1170E+03	-.9910E-04	.1199E+03	-.9031E-04	.1226E+03	-.7193E-04
.1264E+03	-.4156E-04	.1294E+03	-.1439E-04	.1325E+03	.1918E-04
.1308E+03	.7592E-04	.1446E+03	.1319E-03	.1512E+03	.2046E-03
.1574E+03	.2757E-03	.1628E+03	.3317E-03	.1700E+03	.4100E-03
.1771E+03	.4915E-03	.1843E+03	.5690E-03	.1896E+03	.6330E-03
.1952E+03	.6953E-03	.1998E+03	.7473E-03		
199	2	25	5		
.7971E+02	.4529E-02	.8658E+02	.5050E-02	.9337E+02	.5611E-02
.1002E+03	.5812E-02	.1046E+03	.6293E-02	.1083E+03	.6952E-02
.1112E+03	.5892E-02	.1161E+03	.5571E-02	.1195E+03	.4689E-02
.1223E+03	.4248E-02	.1249E+03	.3367E-02	.1305E+03	.1844E-02
.1338E+02	.1002E-02	.1383E+03	-.4409E-03	.1424E+03	-.1924E-02
.1478E+03	-.3768E-02	.1521E+03	-.5210E-02	.1601E+03	-.8858E-02
.1661E+03	-.1086E-01	.1720E+03	-.1347E-01	.1783E+03	-.1619E-01
.1845E+03	-.1324E-01	.1903E+03	-.2224E-01	.1941E+03	-.2421E-01
.1997E+03	-.2709E-01				
200	2	13	5		
.8011E+02	.0	.8992E+02	-.2151E-04	.9996E+02	-.3665E-04
.1098E+03	-.5259E-04	.1177E+03	-.7012E-04	.1275E+03	-.9004E-04
.1381E+03	-.1076E-03	.1515E+03	-.1299E-03	.1625E+03	-.1516E-03
.1722E+03	-.1665E-03	.1833E+03	-.1857E-03	.1916E+03	-.2024E-03
.1998E+03	-.2159E-03				
201	2	13	5		
.8016E+02	.1355E-02	.9060E+02	.1873E-02	.1000E+03	.2351E-02
.1104E+03	.2629E-02	.1202E+03	.3108E-02	.1300E+03	.3625E-02
.1403E+03	.3944E-02	.1500E+03	.4462E-02	.1595E+03	.4900E-02
.1702E+03	.5458E-02	.1799E+03	.5737E-02	.1904E+03	.6175E-02
.1998E+03	.6773E-02				
202	2	24	8		
.8011E+02	-.1587E-04	.8562E+02	-.4762E-04	.9105E+02	-.7540E-04
.9617E+02	-.1006E-03	.1019E+03	-.1175E-03	.1055E+03	-.1270E-03
.1600E+03	-.1310E-03	.1101E+03	-.1317E-03	.1121E+03	-.1310E-03
.1135E+03	-.1302E-03	.1152E+03	-.1246E-03	.1267E+03	-.7361E-04
.1304E+03	-.4403E-04	.1354E+03	-.1422E-04	.1403E+03	-.2321E-04

1.1-67E+03	2.413E-04	1.558E+03	1.373E-03	1.626E+03	1.873E-03
1.609E+03	2.289E-03	1.763E+03	2.937E-03	1.823E+03	3.492E-03
1.891E+03	4.032E-03	1.951E+03	4.549E-03	2.002E+03	4.929E-03
203		23	8		
8.022E+02	2.051E-02	8.409E+02	4.230E-02	9.027E+02	5.426E-02
9.657E+02	5.693E-02	1.019E+03	7.564E-02	1.053E+03	8.000E-02
1.000E+03	8.230E-02	1.116E+03	8.190E-02	1.155E+03	7.604E-02
1.191E+03	6.653E-02	1.233E+03	3.306E-02	1.268E+03	3.406E-02
1.335E+03	1.347E-02	1.383E+03	6.337E-03	1.445E+03	1.445E-02
1.494E+03	5.826E-02	1.581E+03	9.822E-02	1.660E+03	1.386E-01
1.733E+03	1.766E-01	1.807E+03	2.107E-01	1.887E+03	2.251E-01
1.959E+03	2.987E-01	2.003E+03	3.113E-01		
204	2	25	9		
7.944E+02	4.087E-03	8.325E+02	2.500E-03	8.877E+02	7.937E-04
9.220E+02	2.279E-04	9.634E+02	1.540E-03	1.009E+03	2.730E-03
1.069E+03	4.206E-03	1.121E+03	4.801E-03	1.153E+03	5.230E-03
1.207E+03	5.595E-03	1.233E+03	5.675E-03	1.262E+03	5.675E-03
1.295E+03	5.556E-03	1.335E+03	5.556E-03	1.375E+03	5.337E-03
1.429E+03	4.841E-03	1.493E+03	4.266E-03	1.531E+03	3.710E-03
1.532E+03	3.892E-03	1.674E+03	1.448E-03	1.740E+03	5.952E-05
1.790E+03	7.738E-04	1.867E+03	2.183E-03	1.936E+03	3.294E-03
1.990E+03	4.405E-03				
205	2	22	8		
8.339E+02	1.558E-01	8.665E+02	7.288E-02	9.319E+02	9.862E-03
9.781E+02	7.298E-02	1.022E+03	1.282E-01	1.086E+03	1.815E-01
1.128E+03	2.229E-01	1.183E+03	2.465E-01	1.217E+03	2.584E-01
1.260E+03	2.584E-01	1.296E+03	2.584E-01	1.343E+03	2.564E-01
1.411E+03	2.544E-01	1.489E+03	2.446E-01	1.551E+03	2.347E-01
1.612E+03	2.150E-01	1.683E+03	1.815E-01	1.755E+03	1.558E-01
1.815E+03	1.302E-01	1.882E+03	8.679E-02	1.953E+03	4.931E-02
206	2	26	9		
8.034E+02	4.135E-03	8.440E+02	5.728E-03	9.023E+02	6.799E-03
9.653E+02	8.270E-03	1.014E+03	9.066E-03	1.040E+03	9.662E-03
1.058E+03	5.702E-03	1.040E+03	9.701E-03	1.120E+03	9.513E-03
1.162E+03	9.026E-03	1.208E+03	8.390E-03	1.240E+03	7.674E-03
1.278E+03	6.881E-03	1.326E+03	5.288E-03	1.351E+03	4.294E-03
1.396E+03	2.823E-03	1.449E+03	1.670E-03	1.475E+03	1.980E-04
1.529E+03	1.710E-03	1.572E+03	3.082E-03	1.651E+03	6.401E-03
1.696E+03	6.091E-03	1.785E+03	1.145E-02	1.883E+03	1.511E-02
1.935E+03	1.714E-02	1.999E+03	1.968E-02		
209	2	21	7		
8.021E+02	3.108E-01	8.603E+02	3.745E-01	9.362E+02	4.622E-01
1.013E+03	5.370E-01	1.064E+03	5.578E-01	1.092E+03	5.817E-01
1.117E+03	5.777E-01	1.140E+03	5.418E-01	1.196E+03	4.622E-01
1.234E+03	4.824E-01	1.281E+03	3.227E-01	1.346E+03	1.633E-01
1.401E+03	2.789E-02	1.474E+03	1.873E-01	1.550E+03	3.865E-01
1.623E+03	6.096E-01	1.700E+03	8.207E-01	1.778E+03	1.056E+00
1.864E+02	1.275E+00	1.938E+03	1.486E+00	1.994E+03	1.677E+00
210	2	30	10		
8.019E+02	9.940E-03	8.537E+02	6.333E-03	8.792E+02	4.409E-03
9.095E+02	2.445E-03	9.295E+02	1.242E-03	9.534E+02	8.016E-05
9.757E+02	1.162E-03	1.004E+03	2.205E-03	1.036E+03	3.166E-03
1.071E+03	4.780E-03	1.096E+03	4.124E-03	1.121E+03	4.080E-03
1.161E+03	3.607E-03	1.200E+03	2.806E-03	1.250E+03	1.283E-03
1.205E+03	1.603E-04	1.329E+03	1.603E-03	1.384E+03	3.718E-03
1.428E+03	5.691E-03	1.454E+03	6.894E-03	1.499E+03	8.818E-03
1.545E+03	1.118E-02	1.582E+03	1.283E-02	1.623E+03	1.475E-02
1.690E+03	1.800E-02	1.746E+03	2.206E-02	1.792E+03	2.293E-02
1.888E+03	2.778E-02	1.942E+03	3.034E-02	2.001E+03	3.333E-02
211	2	31	11		
8.000E+02	3.100E-01	8.400E+02	2.000E-01	8.800E+02	9.000E-02
9.200E+02	0.	9.600E+02	1.200E-01	1.000E+03	2.000E-01
1.040E+03	2.700E-01	1.080E+03	3.000E-01	1.120E+03	3.100E-01
1.160E+03	2.900E-01	1.200E+03	2.200E-01	1.240E+03	1.700E-01
1.280E+03	2.000E-01	1.320E+03	1.000E-01	1.360E+03	1.000E-01



111E+02	-117E-02	370E+04	-104E-02	944E+02	-904E-03
988E+02	-810E-03	146E+03	-700E-03	1094E+03	-600E-03
1131E+03	-536E-03	1159E+03	-884E-03	1188E+03	-420E-03
1212E+03	-384E-03	124E+03	-320E-03	1289E+03	-240E-03
1322E+03	-180E-03	1351E+03	-1340E-03	1388E+03	-760E-04
1417E+03	-340E-04	1453E+03	-180E-04	1488E+03	-700E-04
1524E+03	120E-03	1561E+03	-160E-03	1682E+03	-210E-03
1648E+03	-256E-03	1600E+03	-2940E-03	1711E+03	-320E-03
1755E+03	-356E-03	1799E+03	-380E-03	1855E+03	-410E-03
1899E+03	-420E-03	1938E+03	-436E-03	1981E+03	-450E-03
2002E+03	450E-03	35	12	6937E+02	-288E+00
6045E+02	3046E+00	6547E+02	-2966E+00	7758E+02	-253E+00
7184E+02	2010E+00	7511E+02	-2681E+00	8307E+02	-213E+00
7909E+02	2441E+00	8100E+02	-2311E+00	8833E+02	-1631E+00
8491E+02	1960E+00	8642E+02	-1816E+00	9701E+02	-1090E+00
9128E+02	9128E+00	9343E+02	-1295E+00	1090E+03	-593E-01
1018E+03	881E-01	1051E+03	-745E-01	1210E+03	-228E-01
1135E+03	4289E-01	1170E+03	-3367E-01	1368E+03	-928E-02
1250E+03	1363E-01	1301E+03	-804E-03	1522E+03	-3567E-01
1412E+03	-180E-01	1471E+03	-2645E-01	1771E+03	-633E-01
1661E+03	-5291E-01	1720E+03	-5852E-01	1912E+03	-7214E-01
1821E+03	-6613E-01	1879E+03	-7014E-01	1500E+01	0.
1952E+03	-7495E-01	2000E+03	-7495E-01	1650E+01	-200E-02
220	17	1450E+01	0.	1800E+01	-300E-01
3.	0.	1600E+01	0.	1950E+01	-780E-01
1550E+01	-100E-01	1750E+01	-130E-01	2100E+01	-1740E+00
1700E+01	-410E-01	1900E+01	-590E-01		
1850E+01	-1020E+00	2050E+01	-1350E+00		
2000E+01	-2200E+00	2200E+01	-2720E+00		
2150E+01		24	8		
1250E+00	185E-03	1844E+00	-2173E-03	2306E+00	-233E-03
2752E+00	-253E-03	3266E+00	-2792E-03	3648E+00	-301E-03
3994E+00	3111E-03	4301E+00	-3350E-03	4472E+00	-3470E-03
4731E+00	3848E-03	4938E+00	-4128E-03	5094E+00	-4407E-03
5261E+00	474E-03	5440E+00	-5165E-03	5568E+00	-552E-03
5711E+00	6002E-03	5846E+00	-6461E-03	5974E+00	-699E-03
6153E+00	7717E-03	6296E+00	-8295E-03	6432E+00	-891E-03
6587E+00	9691E-03	6790E+00	-1075E-02	6993E+00	-1184E-02
7767E+02	1835E-01	8931E+02	-2072E-01	9649E+02	-175E-01
1015E+03	1633E-01	1081E+03	-1474E-01	1152E+03	-103E-01
1301E+03	-118E-02	1402E+03	-1194E-01	1490E+03	-262E-01
1531E+03	-3227E-01	1636E+03	-4661E-01	1774E+03	-709E-01
1873E+03	-6566E-01	2007E+03	-1084E+00		
223	18	2510E+00	-1276E-03	3004E+00	-126E-03
2804E+00	1216E-03	4116E+00	-1615E-03	394E+00	-175E-03
3582E+00	1974E-03	4849E+00	-233E-03	5060E+00	-267E-03
4586E+00	3131E-03	5506E+00	-3649E-03	5749E+00	-4367E-03
5996E+00	5065E-03	6235E+00	-5803E-03	6442E+00	-6481E-03
6641E+00	7238E-03	6940E+00	-1554E-03	7000E+00	-8714E-03
670E+02	976E-01	7131E+02	-7720E-01	7489E+02	-656E-01
8102E+02	436E-01	8476E+02	-3560E-01	8906E+02	-273E-01
9208E+02	1088E-01	9998E+02	-8400E-02	1040E+03	-172E-01
1089E+03	-2920E-01	1136E+03	-4049E-01	1189E+03	-540E-01
1250E+03	-648E-01	1296E+03	-7600E-01	1339E+03	-8480E-01
1410E+03	-9520E-01	1459E+03	-1036E+00	1511E+03	-107E+00
1569E+03	-1132E-00	1617E+03	-1176E+00	1660E+03	-1176E+00
1699E+03	-1176E+00	1745E+03	-1168E+00	1800E+03	-1120E+00
1870E+03	-1076E+00	1931E+03	-1044E+00	1998E+03	-992E-01
225	19	3997E+02	-1325E+00	4950E+02	-1164E+00
3113E+02	1320E+00	711E+00	-237E-01	700E+00	-20E-01
599E+02	1074E+00				

.3455E+02	.8130E-01	.3980E+02	.7143E-01	.1093E+03	.6300E-01
.1197E+03	.5380E-01	.1294E+03	.4880E-01	.1401E+03	.3560E-01
.1505E+03	.2600E-01	.1601E+03	.1763E-01	.1689E+03	.1340E-01
.1771E+03	.1600E-02	.1843E+03	.4200E-02	.1914E+03	.1100E-01
.2000E+03	.1800E-01				
226	1	16	6		
.3946E+02	.9554E+01	.5046E+02	.3845E+01	.6022E+02	.3088E+01
.7033E+02	.7570E+01	.7995E+02	.6833E+01	.8998E+02	.6175E+01
.9976E+02	.5637E+01	.1103E+03	.4801E+01	.1196E+03	.4233E+01
.1299E+03	.3606E+01	.1400E+03	.2969E+01	.1516E+03	.2112E+01
.1682E+03	.5960E+00	.1786E+03	.3944E+00	.1904E+03	.4781E+00
.1999E+03	.1016E+01				
227	1	2	1		
.3575E+02	.5000E+00	.1999E+03	.5000E+00		
227	2	18	6		
.3598E+02	.8567E+00	.3817E+02	.3535E+00	.1230E+03	.8559E+00
.1265E+03	.8519E+00	.1289E+03	.3527E+00	.1321E+03	.9567E+00
.1356E+03	.8662E+00	.1384E+03	.8750E+00	.1407E+03	.8846E+00
.1423E+03	.8869E+00	.1429E+03	.8949E+00	.1448E+03	.8965E+00
.1568E+03	.8997E+00	.1483E+03	.9013E+00	.1693E+03	.9013E+00
.1819E+03	.9013E+00	.1937E+03	.3013E+00	.1998E+03	.9013E+00
227	3	24	8		
.4014E+02	.1056E+01	.6611E+02	.1056E+01	.8095E+02	.1056E+01
.9136E+02	.1059E+01	.9484E+02	.1061E+01	.9829E+02	.1062E+01
.1012E+03	.1067E+01	.1055E+03	.1073E+01	.1099E+03	.1088E+01
.1143E+03	.1102E+01	.1198E+03	.1149E+01	.1247E+03	.1138E+01
.1293E+03	.1153E+01	.1338E+03	.1165E+01	.1361E+03	.1176E+01
.1383E+03	.1186E+01	.1399E+03	.1173E+01	.1414E+03	.1193E+01
.1438E+03	.1194E+01	.1485E+03	.1193E+01	.1574E+03	.1199E+01
.1705E+03	.1199E+01	.1871E+03	.1199E+01	.1996E+03	.1199E+01
227	4	2	1		
.3990E+02	.1605E+01	.1998E+03	.1605E+01		
227	5	2	1		
.4014E+02	.2002E+01	.1996E+03	.2002E+01		
228	1	17	6		
.4006E+02	.7817E-02	.4954E+02	.7027E-02	.5958E+02	.6309E-02
.6953E+02	.5583E-02	.7917E+02	.4873E-02	.3913E+02	.4211E-02
.9316E+02	.3446E-02	.1094E+03	.2688E-02	.1197E+03	.1914E-02
.1298E+03	.1188E-02	.1396E+03	.4786E-03	.1501E+03	.2871E-03
.1683E+03	.1045E-02	.1694E+03	.1707E-02	.1798E+03	.2457E-02
.1898E+03	.3206E-02	.1996E+03	.3903E-02		
229	1	34	12		
.4444E+02	.3074E+00	.5114E+02	.3752E+00	.6022E+02	.5190E+00
.6930E+02	.6397E+00	.8076E+02	.1263E+00	.9215E+02	.9661E+00
.9882E+02	.1022E+01	.1008E+03	.1046E+01	.1053E+03	.1074E+01
.1003E+03	.1074E+01	.1121E+03	.1078E+01	.1153E+03	.1062E+01
.1185E+03	.1038E+01	.1211E+03	.9661E+00	.1247E+03	.8902E+00
.1292E+03	.7425E+00	.1329E+03	.5829E+00	.1363E+03	.4351E+00
.1397E+03	.2914E+00	.1432E+03	.1198E+00	.1458E+03	0.
.1469E+03	.1038E+01	.1517E+03	.2236E+00	.1553E+03	.3273E+00
.1506E+03	.3952E+00	.1633E+03	.4750E+00	.1670E+03	.5110E+00
.1717E+03	.5349E+00	.1770E+03	.5829E+00	.1826E+03	.5749E+00
.1885E+03	.5629E+00	.1914E+03	.5309E+00	.1959E+03	.5309E+00
.1598E+03	.5269E+00				
230	1	31	11		
.6794E+02	.1305E+00	.7072E+02	.1277E+00	.7311E+02	.1239E+00
.7502E+02	.1211E+00	.7789E+02	.1155E+00	.7995E+02	.1102E+00
.8298E+02	.1021E+00	.8473E+02	.9618E-01	.8679E+02	.9076E-01
.8978E+02	.7851E-01	.9157E+02	.6867E-01	.9395E+02	.5844E-01
.9234E+02	.4859E-01	.9887E+02	.3935E-01	.1025E+03	.2711E-01
.1065E+03	.1406E-01	.1091E+03	.5622E-02	.1144E+03	.6024E-03
.1136E+03	.6024E-02	.1269E+03	.2510E-01	.1305E+03	.2822E-01
.1368E+03	.3434E-01	.1409E+03	.7859E-01	.1485E+03	.4297E-01
.1544E+03	.4639E-01	.1616E+03	.5000E-01	.1691E+03	.5241E-01
.1753E+03	.5442E-01	.1837E+03	.5723E-01	.1923E+03	.5904E-01
.2000E+03	.5000E-01				

231	1	27	q	5378E+02	-6667E+01
.4025E+02	.7569E+01	.4654E+02	-.7202E+01	.5378E+02	-6667E+01
.6078E+02	.6844E+01	.6794E+02	-.5469E+01	.7446E+02	-4950E+01
.7940E+02	.4431E+01	.8457E+02	-.3920E+01	.0980E+02	-3401E+01
.9435E+02	.2890E+01	.9920E+02	-.2427E+01	.1033E+03	-2068E+01
.1082E+03	.1661E+01	.1112E+03	-.1413E+01	.1148E+03	-1182E+01
.1166E+03	.1086E+01	.1262E+03	-.5509E+00	.1313E+03	-3273E+00
.1368E+03	.1118E+01	.1461E+03	.1597E+00	.1527E+03	.3114E+00
.1602E+03	.3932E+00	.1712E+03	.4790E+00	.1808E+03	.4950E+00
.1889E+03	.4870E+00	.1960E+03	.4790E+00	.1990E+03	.4551E+00
232	1	22	8	.2916E+00	.4980E+00
.2262E+00	.1275E+00	.2625E+00	.2908E+00	.3734E+00	.1247E+01
.3171E+00	.7809E+00	.3430E+00	.9761E+00	.4276E+00	.1649E+01
.3961E+00	.1426E+01	.4164E+00	.1602E+01	.4807E+00	.1657E+01
.4420E+00	.1689E+01	.4575E+00	.1689E+01	.5481E+00	.1283E+01
.5042E+00	.1570E+01	.5233E+00	.1482E+01	.6334E+00	.6534E+00
.5728E+00	.1131E+01	.5935E+00	.9482E+00	.7140E+00	.2032E+00
.6590E+00	.4661E+00	.6845E+00	.1586E+00		
.7268E+00	.1594E+00				
233	1	12	4	.6377E+02	-.2170E-01
.4013E+02	.2444E-01	.5096E+02	-.2324E-01	.1117E+03	-.1636E-01
.7834E+02	.2016E-01	.9616E+02	-.1806E-01	.1508E+03	-.1108E-01
.1293E+03	.1430E-01	.1419E+03	-.1290E-01	.1997E+03	-.6600E-02
.1764E+03	-.5740E-02	.1927E+03	-.7220E-02		
234	1	22	8	.7093E+02	.1996E+01
.5028E+02	.1385E+01	.6029E+02	.1924E+01	.9500E+02	.2553E+01
.8086E+02	.2135E+01	.8409E+02	.2322E+01	.1096E+03	.3344E+01
.1016E+03	.2071E+01	.1058E+03	.3157E+01	.1260E+03	.3467E+01
.1141E+03	.3535E+01	.1140E+03	.3606E+01	.1420E+03	.2481E+01
.1316E+03	.3173E+01	.1364E+03	.2815E+01	.1655E+03	.1956E+01
.1516E+03	.2254E+01	.1581E+03	.2076E+01	.1914E+03	.1753E+01
.1763E+03	.1824E+01	.1852E+03	.1797E+01		
.2002E+03	.1761E+01				
235	1	17	6	.6075E+02	-.2030E-01
.4013E+02	.2167E-01	.4960E+02	-.2102E-01	.9108E+02	-.1831E-01
.7062E+02	.1968E-01	.9073E+02	-.1890E-01	.1213E+03	-.1625E-01
.1014E+03	.1763E-01	.1111E+03	-.1695E-01	.1520E+03	-.1418E-01
.1308E+03	.1552E-01	.1405E+03	-.1494E-01	.1811E+03	-.1221E-01
.1614E+03	.1363E-01	.1705E+03	-.1293E-01		
.1902E+03	-.1157E-01	.1999E+03	-.1104E-01		
236	1	2	1		
.4008E+02	.4410E+01	.2000E+03	.1650E+01		
237	1	23	8	.1197E+03	.1386E-04
.8002E+02	0.	.1157E+03	.3960E-05	.1314E+03	.6139E-04
.1244E+03	.1584E-04	.1275E+03	.3366E-04	.1432E+03	.1624E-03
.1355E+03	.9505E-04	.1389E+03	.1366E-03	.1569E+03	.2772E-03
.1471E+03	.2020E-03	.1509E+03	.2376E-03	.1690E+03	.3446E-03
.1611E+03	.2990E-03	.1653E+03	.3307E-03	.1821E+03	.3960E-03
.1738E+03	.3624E-03	.1779E+03	.3902E-03	.1923E+03	.3980E-03
.1859E+03	.3460E-03	.1900E+03	.3960E-03		
.1959E+03	.3941E-03	.2000E+03	.3902E-03		
238	1	3	1	.1000E+01	0.
.5578E-01	0.	.1462E+00	0.		
239	1	19	7	.9331E+02	.1446E-01
.7978E+02	.1644E-01	.8726E+02	.1624E-01	.1100E+03	.1188E-01
.1800E+03	.1307E-01	.1040E+03	.1220E-01	.1300E+03	.8515E-02
.1178E+03	.1129E-01	.1240E+03	.1032E-01	.1484E+03	.5347E-02
.1357E+03	.3337E-02	.1406E+03	.6139E-02	.1720E+03	.3960E-03
.1547E+03	.3366E-02	.1634E+03	.1782E-02	.1940E+03	-.3564E-02
.1811E+03	.1180E-02	.1880E+03	-.2179E-02		
.2000E+03	-.4350E-02				
240	1	3	1	.1000E+01	0.
.6022E-01	0.	.1500E+00	0.		
242	1	2	1	.7029E+00	
.6029E+02	.7028E+00	.2002E+03	.7029E+00		
243	2	2	2		

.6029E+02	242	3	7	3	3	1053E+01	.1200E+03	.1050E+01
.1401E+03						.1050E+01	.1802E+03	.1050E+01
.2002E+03								
.6029E+02	242	4	2	1	1	.1202E+01		
.6000E+02	242	5	2	1	1	.1604E+01		
.7798E+02	243	1	20	7	7	.3912E-03	.9184E+02	.3753E-07
.9805E+02						.3613E-03	.1101E+03	.3533E-03
.1151E+03						.3333E-03	.1259E+03	.3214E-03
.1322E+03						.2314E-03	.1419E+03	.2695E-03
.1472E+03						.2415E-03	.1546E+03	.2236E-03
.1671E+03						.1497E-03	.1649E+03	.1297E-03
.1921E+03	244	1	20	7	7	.6786E-04		
.6006E-01						.2912E-03	.9032E-01	.2912E-03
.1004E+00						.2831E-03	.1161E+00	.2651E-03
.1201E+00						.2028E-03	.1252E+00	.1867E-03
.1268E+00						.1104E-03	.1305E+00	.8032E-04
.1331E+00						.2209E-04	.1402E+00	.1406E-04
.1433E+00						.6024E-05	.1501E+00	.2068E-05
.1500E+00	0.							
.7739E+02	245	1	22	6	6	.1022E-01	.8519E+02	.1222E-01
.8869E+02						.1683E-01	.9912E+02	.1884E-01
.1051E+03						.2204E-01	.1139E+03	.2265E-01
.1185E+03						.2365E-01	.1299E+03	.2365E-01
.1360E+03						.2144E-01	.1499E+03	.2044E-01
.1579E+03						.1623E-01	.1742E+03	.1363E-01
.1820E+03						.6614E-02	.1952E+03	.3368E-02
.1988E+03								
.6011E-01	246	1	16	6	6	.2056E-01	.1002E+00	.2056E-01
.1099E+00						.1936E-01	.1200E+00	.1737E-01
.1294E+00						.1257E-01	.1283E+00	.9782E-02
.1301E+00						.1320E+00	.1341E+00	.9980E-03
.1360E+00						.9980E-03	.1400E+00	0.
.1000E+01	0.							
.7567E+02	247	1	29	10	10	.1012E-03	.8697E+02	.1984E-04
.9087E+02						.1627E-03	.9873E+02	.2401E-03
.1052E+03						.4702E-03	.1202E+03	.5813E-03
.1253E+03						.6607E-03	.1330E+03	.6726E-03
.1362E+03						.6726E-03	.1423E+03	.6627E-03
.1457E+03						.6290E-03	.1542E+03	.5794E-03
.1589E+03						.4544E-03	.1670E+03	.3810E-03
.1720E+03						.1667E-03	.1806E+03	.7341E-04
.1846E+03						.2083E-03	.1948E+03	.3214E-03
.1903E+03						.4583E-03		
.6037E-01	248	1	28	10	10	.5489E-03	.8788E-01	.5489E-03
.9386E-01						.5329E-03	.1045E+00	.5289E-03
.1085E+00						.5130E-03	.1184E+00	.4370E-03
.1207E+00						.4591E-03	.1266E+00	.4311E-03
.1288E+00						.3673E-03	.1336E+00	.3253E-03
.1353E+00						.2255E-03	.1600E+00	.1756E-03
.1424E+00						.1038E-03	.1465E+00	.7386E-04
.1470E+00						.3194E-04	.1510E+00	.1796E-04
.1534E+00						.9980E-05	.1600E+00	0.
.1800E+01	0.							
.7954E+04	249	1	24	8	8	.1992E-03	.8695E+02	.3984E-02
.9774E+02						.1736E-01	.1031E+01	.1375E-01

.1795E+03	.1795E-01	.1194E+03	.1795E-01	.1194E+03	.1795E-01
.1653E-01	.1653E-01	.1342E+03	.1653E-01	.1342E+03	.1653E-01
.1096E-01	.1096E-01	.1546E+03	.1096E-01	.1546E+03	.1096E-01
.3386E-02	.3386E-02	.1717E+03	.3386E-02	.1717E+03	.3386E-02
.4183E-02	.4183E-02	.1861E+03	.4183E-02	.1861E+03	.4183E-02
.1394E-01	.1394E-01	.2000E+03	.1394E-01	.2000E+03	.1394E-01
.5912E-02	.5912E-02	.74E-01	.5912E-02	.74E-01	.5912E-02
.4609E-02	.4609E-02	.1099E+00	.4609E-02	.1099E+00	.4609E-02
.2605E-02	.2605E-02	.1243E+00	.2605E-02	.1243E+00	.2605E-02
0.	0.	.1476E+00	0.	.1476E+00	0.
0.	0.	.1000E+01	0.	.1000E+01	0.
.3294E-03	.3294E-03	.5341E+02	.3294E-03	.5341E+02	.3294E-03
.7540E-04	.7540E-04	.8993E+02	.7540E-04	.8993E+02	.7540E-04
.3909E-03	.3909E-03	.9797E+02	.3909E-03	.9797E+02	.3909E-03
.6647E-03	.6647E-03	.1088E+03	.6647E-03	.1088E+03	.6647E-03
.7917E-03	.7917E-03	.1179E+03	.7917E-03	.1179E+03	.7917E-03
.8175E-03	.8175E-03	.1248E+03	.8175E-03	.1248E+03	.8175E-03
.7758E-03	.7758E-03	.1356E+03	.7758E-03	.1356E+03	.7758E-03
.6587E-03	.6587E-03	.1586E+03	.6587E-03	.1586E+03	.6587E-03
.4663E-03	.4663E-03	.1654E+03	.4663E-03	.1654E+03	.4663E-03
.2063E-03	.2063E-03	.1815E+03	.2063E-03	.1815E+03	.2063E-03
.3968E-04	.3968E-04	.1944E+03	.3968E-04	.1944E+03	.3968E-04
.9960E-03	.9960E-03	.7967E-01	.9960E-03	.7967E-01	.9960E-03
.9941E-03	.9941E-03	.1058E+00	.9941E-03	.1058E+00	.9941E-03
.9543E-03	.9543E-03	.1177E+00	.9543E-03	.1177E+00	.9543E-03
.8752E-03	.8752E-03	.1267E+00	.8752E-03	.1267E+00	.8752E-03
.7505E-03	.7505E-03	.1347E+00	.7505E-03	.1347E+00	.7505E-03
.5347E-03	.5347E-03	.1431E+00	.5347E-03	.1431E+00	.5347E-03
.2614E-03	.2614E-03	.1513E+00	.2614E-03	.1513E+00	.2614E-03
.8515E-04	.8515E-04	.1567E+00	.8515E-04	.1567E+00	.8515E-04
.1196E-04	.1196E-04	.1628E+00	.1196E-04	.1628E+00	.1196E-04
0.	0.	.1000E+01	0.	.1000E+01	0.
.3194E-02	.3194E-02	.8495E+02	.3194E-02	.8495E+02	.3194E-02
.1070E-01	.1070E-01	.9252E+02	.1070E-01	.9252E+02	.1070E-01
.2116E-01	.2116E-01	.8896E+02	.2116E-01	.8896E+02	.2116E-01
.2794E-01	.2794E-01	.1061E+03	.2794E-01	.1061E+03	.2794E-01
.3034E-01	.3034E-01	.1141E+03	.3034E-01	.1141E+03	.3034E-01
.2934E-01	.2934E-01	.1271E+03	.2934E-01	.1271E+03	.2934E-01
.2515E-01	.2515E-01	.1381E+03	.2515E-01	.1381E+03	.2515E-01
.1816E-01	.1816E-01	.1539E+03	.1816E-01	.1539E+03	.1816E-01
.1138E-01	.1138E-01	.1654E+03	.1138E-01	.1654E+03	.1138E-01
.4192E-02	.4192E-02	.1760E+03	.4192E-02	.1760E+03	.4192E-02
.4591E-02	.4591E-02	.1871E+03	.4591E-02	.1871E+03	.4591E-02
.1617E-01	.1617E-01	.1999E+03	.1617E-01	.1999E+03	.1617E-01
.4356E-01	.4356E-01	.9585E-01	.4356E-01	.9585E-01	.4356E-01
.4139E-01	.4139E-01	.1153E+00	.4139E-01	.1153E+00	.4139E-01
.3485E-01	.3485E-01	.1261E+00	.3485E-01	.1261E+00	.3485E-01
.2238E-01	.2238E-01	.1340E+00	.2238E-01	.1340E+00	.2238E-01
.9109E-02	.9109E-02	.1417E+00	.9109E-02	.1417E+00	.9109E-02
.2178E-02	.2178E-02	.1474E+00	.2178E-02	.1474E+00	.2178E-02
0.	0.	.1000E+01	0.	.1000E+01	0.
.9868E+02	.9868E+02	.9868E+02	.9868E+02	.9868E+02	.9868E+02
.2510E-03	.2510E-03	.1183E+03	.2510E-03	.1183E+03	.2510E-03
.2470E-03	.2470E-03	.1315E+03	.2470E-03	.1315E+03	.2470E-03
.2253E-03	.2253E-03	.1423E+03	.2253E-03	.1423E+03	.2253E-03
.1838E-03	.1838E-03	.1537E+03	.1838E-03	.1537E+03	.1838E-03
.3486E-04	.3486E-04	.1634E+03	.3486E-04	.1634E+03	.3486E-04
.2372E-04	.2372E-04	.1725E+03	.2372E-04	.1725E+03	.2372E-04
.1561E-03	.1561E-03	.1847E-04	.1561E-03	.1847E-04	.1561E-03
.3349E-04	.3349E-04	.1962E-04	.3349E-04	.1962E-04	.3349E-04



.1345E+00	.393E-03	.197E+03	.191E+03	.191E+03	.191E+03
.1957E+03	.6957E-03	.197E+03	.197E+03	.197E+03	.197E+03
256	1	19	7	7	7
.5996E-01	.2113E-03	.6990E-01	.2113E-03	.7992E-01	.2113E-03
.9938E-01	.2072E-03	.9988E-01	.2052E-03	.1061E+00	.2032E-03
.1126E+00	.1871E-03	.1199E+00	.1751E-03	.1245E+00	.1549E-03
.1288E+00	.1187E-03	.1327E+00	.9054E-04	.1366E+00	.7342E-04
.1416E+00	.3923E-04	.1450E+00	.2414E-04	.1471E+00	.1408E-04
.1499E+00	1.	.1559E+00	0.	.1600E+00	0
.1000E+01	0.				
257	1	18	6		
.6011E+02	.2465E-01	.8393E+02	.2167E-01	.8886E+02	.1720E-01
.3867E+02	.1710E-01	.9522E+02	.1590E-01	.1066E+03	.1511E-01
.1130E+03	.1412E-01	.1195E+03	.1491E-01	.1277E+03	.1610E-01
.1261E+03	.1710E-01	.1438E+03	.1968E-01	.1533E+03	.2247E-01
.1623E+03	.2763E-01	.1720E+03	.1268E-01	.1730E+03	.3594E-01
.1858E+03	.4036E-01	.1924E+03	.4513E-01	.2000E+03	.4990E-01
258	1	21	7		
.6033E-01	.1074E-01	.7035E-01	.1074E-01	.8029E-01	.1074E-01
.9927E-01	.1014E-01	.9809E-01	.1054E-01	.1049E+00	.1093E-01
.1104E+00	.5940E-02	.1174E+00	.9943E-02	.1202E+00	.9145E-02
.1237E+00	.6151E-02	.1272E+00	.7157E-02	.1308E+00	.5567E-02
.1341E+00	.3380E-02	.1359E+00	.2785E-02	.1368E+00	.1918E-02
.1408E+00	.7952E-03	.1430E+00	0.	.1480E+00	0.
.1500E+00	0.	.1600E+00	0.	.1000E+01	0.
259	1	18	6		
.7986E+02	.1153E-02	.8774E+02	.3543E-03	.9594E+02	.7555E-03
.1043E+03	.6163E-03	.1143E+03	.2735E-03	.1197E+03	.2167E-03
.1292E+03	.5964E-04	.1361E+03	.3976E-04	.1431E+03	.3976E-04
.1502E+03	.5964E-04	.1555E+03	.1193E-03	.1612E+03	.1988E-03
.1670E+03	.3579E-03	.1741E+03	.5567E-03	.1816E+03	.7753E-03
.1880E+03	.1113E-02	.1955E+03	.1392E-02	.2000E+03	.1730E-02
260	1	21	7		
.6026E-01	.1687E-02	.6927E-01	.1567E-02	.7804E-01	.1468E-02
.9419E-01	.1468E-02	.9008E-01	.1349E-02	.9637E-01	.1329E-02
.1022E+00	.1310E-02	.1079E+00	.1235E-02	.1122E+00	.1219E-02
.1169E+00	.1131E-02	.1208E+00	.9127E-03	.1235E+00	.8135E-03
.1253E+00	.7341E-03	.1271E+00	.5952E-03	.1292E+00	.4167E-03
.1309E+00	.2381E-03	.1334E+00	.1587E-03	.1373E+00	0.
.1417E+00	0.	.1498E+00	0.	.1000E+01	0.
261	1	18	6		
.8014E+02	.1020E+00	.8699E+02	.9361E-01	.9248E+02	.8964E-01
.9869E+02	.8327E-01	.1051E+03	.7453E-01	.1125E+03	.6773E-01
.1108E+03	.6056E-01	.1267E+03	.5139E-01	.1333E+03	.4104E-01
.1422E+03	.2789E-01	.1505E+03	.1673E-01	.1602E+03	.2769E-02
.1675E+03	.7570E-02	.1737E+03	.1753E-01	.1824E+03	.2948E-01
.1887E+03	.3825E-01	.1949E+03	.4701E-01	.2001E+03	.5538E-01
262	1	21	7		
.6034E-01	.5857E-01	.7015E-01	.5857E-01	.7844E-01	.5857E-01
.8418E-01	.5777E-01	.9239E-01	.5637E-01	.9789E-01	.5498E-01
.1037E+00	.5498E-01	.1095E+00	.5063E-01	.1161E+00	.4741E-01
.1262E+00	.3705E-01	.1297E+00	.2943E-01	.1325E+00	.2271E-01
.1346E+00	.1673E-01	.1362E+00	.1315E-01	.1381E+00	.8367E-02
.1396E+00	.5578E-02	.1408E+00	.1586E-02	.1431E+00	0.
.1472E+00	0.	.1501E+00	0.	.1000E+01	0.
264	1	2	1		
.5966E+02	.7022E+00	.2002E+03	.7022E+00		
264	2	2	1		
.5974E+02	.9066E+00	.2003E+03	.9066E+00		
264	3	2	1		
.5974E+02	.1051E+01	.2002E+03	.1051E+01		
264	4	2	1		
.5982E+02	.1204E+01	.1999E+03	.1204E+01		
264	5	2	1		
.5966E+02	.1631E+01	.2002E+03	.1601E+01		
265	1	29	10		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89</											

..006E-01	..356E-01	..904E-01	..936E-01	..930E-01	..378E-01
..1001E+00	..578E-01	..110E+00	..948E-01	..117E+00	..350E-01
..1216E+00	..819E-01	..126E+00	..731E-01	..130E+00	..628E-01
..133E+03	..540E-01	..135E+00	..421E-01	..136E+00	..326E-01
..1381E+00	..270E-01	..139E+00	..190E-01	..141E+00	..127E-01
..1427E+00	..077E-02	..144E+00	..159E-02	..145E+00	0.
..1000E+01	0.	33	11	..158E+00	0.
..301E+02	..340E-03	..423E+02	..400E-03	..847E+02	..122E-02
..855E+02	..184E-02	..879E+02	..210E-02	..895E+02	..264E-02
..316E+02	..292E-02	..929E+02	..320E-02	..946E+02	..360E-02
..970E+02	..394E-02	..991E+02	..420E-02	..101E+03	..440E-02
..1037E+03	..468E-02	..105E+03	..470E-02	..100E+03	..498E-02
..1095E+03	..504E-02	..114E+03	..502E-02	..120E+03	..490E-02
..168E+03	..494E-02	..132E+03	..470E-02	..139E+03	..474E-02
..144E+03	..464E-02	..150E+03	..440E-02	..157E+03	..426E-02
..163E+03	..414E-02	..169E+03	..320E-02	..174E+03	..372E-02
..179E+03	..336E-02	..184E+03	..320E-02	..189E+03	..284E-02
..153E+03	..266E-02	..196E+03	..250E-02	..193E+03	..228E-02
..603E-01	..515E-02	..703E-01	..515E-02	..902E-01	..515E-02
..903E-01	..547E-02	..957E-01	..511E-02	..100E-02	..499E-02
..105E+00	..497E-02	..109E+00	..477E-02	..146E+00	..474E-02
..110E+00	..464E-02	..121E+00	..434E-02	..124E+00	..424E-02
..127E+00	..398E-02	..129E+00	..374E-02	..131E+00	..338E-02
..132E+00	..394E-02	..134E+00	..279E-02	..136E+00	..226E-02
..137E+00	..174E-02	..138E+00	..134E-02	..140E+00	..162E-02
..141E+00	..701E-03	..142E+00	..420E-03	..144E+00	..200E-03
..147E+00	0.	..153E+00	0.	..160E+00	0.
..100E+01	0.	25	9	..850E+02	..646E-01
..768E+02	..159E-01	..827E+02	..391E-01	..932E+02	..125E+00
..877E+02	..270E-01	..902E+02	..102E-00	..104E+00	..190E+00
..968E+02	..152E+00	..100E+03	..173E+00	..117E+00	..210E+00
..100E+03	..206E+00	..112E+03	..214E+00	..138E+00	..212E+00
..122E+03	..222E+00	..130E+03	..222E+00	..160E+00	..176E+00
..144E+03	..207E+00	..153E+03	..194E+00	..181E+00	..135E+00
..164E+03	..170E+00	..173E+03	..154E+00	..196E+00	..990E-01
..187E+03	..119E+00	..193E+03	..106E+00	..799E-01	..238E+00
..200E+03	..500E-01	20	10	..107E+00	..284E+00
..598E-01	..304E+00	..693E-01	..301E+00	..124E+00	..249E+00
..900E-01	..298E+00	..985E-01	..291E+00	..133E+00	..205E+00
..114E+00	..274E+00	..120E+00	..261E+00	..139E+00	..102E+00
..127E+00	..230E+00	..131E+00	..219E+00	..139E+00	..107E+00
..135E+00	..192E+00	..137E+00	..170E+00	..146E+00	..109E+00
..141E+00	..149E+00	..142E+00	..132E+00	..148E+00	..492E-01
..145E+00	..861E-01	..147E+00	..634E-01	..152E+00	..111E-01
..149E+00	..317E-01	..151E+00	..213E-01	..160E+00	0.
..154E+00	0.	13	5	..100E+03	..138E-03
..100E+01	0.	..996E+02	..119E-03	..130E+03	..134E-03
..0021E+02	..297E-03	..120E+03	..139E-03	..160E+03	..476E-03
..110E+03	..130E-03	..150E+03	..196E-03	..190E+03	..773E-03
..140E+03	..555E-03	..160E+03	..734E-03	..782E-01	..412E-03
..200E+03	..692E-03	19	7	..101E+00	..374E-03
..681E-01	..414E-03	..694E-01	..414E-03	..136E+00	..315E-03
..871E-01	..414E-03	..954E-01	..414E-03	..128E+00	..177E-03
..107E+00	..333E-03	..110E+00	..333E-03	..136E+00	..591E-04
..158E+00	..177E-03	..121E+00	..197E-03	..160E+00	0.
..126E+00	..331E-03	..132E+00	..118E-03	..160E+00	0.
..140E+00	0.	..150E+00	0.	..160E+00	0.
..100E+02	0.	27	6	..160E+00	0.

.035E+02	.895E-01	.996E+02	.971E-01	.973E+02	.931E-01
.106E+02	.736E-01	.117E+03	.728E-01	.124E+03	.689E-01
.131E+03	.641E-01	.141E+03	.578E-01	.148E+03	.573E-01
.158E+03	.522E-01	.163E+03	.491E-01	.177E+03	.480E-01
.184E+03	.356E-01	.193E+03	.293E-01	.199E+03	.190E-01
280	1	25	9		
.559E-01	.145E+00	.696E-01	.143E+00	.794E-01	.142E+00
.591E-01	.140E+00	.943E-01	.139E+00	.995E-01	.145E+00
.1054E+00	.122E+00	.122E+00	.134E+00	.117E+00	.127E+00
.119E+00	.122E+00	.122E+00	.134E+00	.124E+00	.103E+00
.127E+00	.504E-01	.129E+00	.601E-01	.130E+00	.690E-01
.131E+00	.579E-01	.133E+00	.404E-01	.134E+00	.309E-01
.136E+00	.222E-01	.137E+00	.137E+00	.139E+00	.555E-02
.1414E+00	0.	.147E+00	0.	.159E+00	0.
.106E+01	0.				
237	2	23	8		
.797E+02	.322E-03	.667E+02	.360E-03	.909E+02	.390E-03
.964E+02	.429E-03	.102E+03	.479E-03	.109E+03	.512E-03
.1158E+03	.558E-03	.122E+03	.604E-03	.128E+03	.636E-03
.1356E+03	.677E-03	.139E+03	.701E-03	.143E+03	.720E-03
.1471E+03	.736E-03	.152E+03	.748E-03	.155E+03	.745E-03
.1609E+03	.748E-03	.169E+03	.748E-03	.174E+03	.730E-03
.1803E+03	.714E-03	.184E+03	.693E-03	.189E+03	.673E-03
.1962E+03	.647E-03	.200E+03	.637E-03		
238	2	16	6		
.547E-01	.140E-03	.799E-01	.130E-03	.894E-01	.142E-03
.998E-01	.130E-03	.104E+00	.134E-03	.110E+00	.126E-03
.1161E+00	.960E-04	.1204E+00	.920E-04	.124E+00	.820E-04
.1271E+00	.560E-04	.1301E+00	.340E-04	.132E+00	.160E-04
.1362E+00	.180E-04	.143E+00	.600E-05	.146E+00	0.
.1300E+01	0.				
239	2	20	7		
.798E+02	.435E-02	.837E+02	.574E-02	.894E+02	.693E-02
.910E+02	.910E-02	.961E+02	.122E-01	.100E+03	.136E-01
.1049E+03	.162E-02	.1091E+03	.178E-01	.114E+03	.178E-01
.1178E+03	.184E-01	.122E+03	.192E-01	.128E+03	.200E-01
.1352E+03	.232E-01	.1404E+03	.228E-01	.149E+03	.227E-01
.1507E+03	.233E-01	.167E+03	.247E-01	.180E+03	.257E-01
.190E+03	.267E-01	.199E+03	.267E-01		
240	2	15	5		
.6014E-01	.563E-02	.903E-01	.763E-02	.100E+00	.823E-02
.1083E+00	.803E-02	.113E+00	.682E-02	.120E+00	.622E-02
.1243E+00	.602E-02	.128E+00	.421E-02	.131E+00	.321E-02
.1340E+00	.602E-03	.136E+00	.603E-03	.140E+00	.604E-03
.1499E+00	.401E-03	.150E+00	0.	.100E+01	0.
242	1	2	1		
.602E+02	.702E+00	.200E+03	.702E+00		
242	2	2	1		
.559E+02	.502E+00	.200E+03	.902E+00		
242	3	7	3		
.629E+02	.105E+01	.100E+03	.105E+01	.120E+03	.105E+01
.1401E+03	.105E+01	.160E+03	.105E+01	.180E+03	.105E+01
.200E+03	.105E+01				
242	4	2	1		
.602E+02	.120E+01	.200E+03	.120E+01		
242	5	2	1		
.500E+02	.160E+01	.200E+03	.160E+01		
243	2	24	8		
.777E+02	.716E-03	.829E+02	.598E-03	.861E+02	.530E-03
.905E+02	.439E-03	.961E+02	.329E-03	.102E+03	.221E-03
.1062E+03	.161E-03	.1101E+03	.101E-03	.114E+03	.339E-04
.1202E+03	.399E-04	.125E+03	.101E-03	.129E+03	.147E-03
.1347E+03	.185E-03	.139E+03	.217E-03	.144E+03	.243E-03
.1500E+03	.275E-03	.158E+03	.291E-03	.160E+03	.305E-03
.168E+03	.297E-03	.175E+03	.281E-03	.163E+03	.255E-03
.190E+03	.213E-03	.194E+03	.177E-03		



252	2	21	7	
.6017E-01	.1380E-03	.7027E-01	.1980E-03	.7998E-01
.9029E-01	.1980E-03	.9725E-01	.1980E-03	.1037E+00
.1080E+00	.1941E-03	.1136E+00	.1785E-03	.1182E+00
.1228E+00	.1655E-03	.1250E+00	.1280E-03	.1280E+00
.1306E+00	.7129E-04	.1324E+00	.5347E-04	.1349E+00
.1365E+00	.2574E-04	.1390E+00	.1386E-04	.1419E+00
.1596E+00	.5941E-05	.1702E+00	0.	.1000E+01
253	2	30	10	
.7970E+02	.1297E-01	.8240E+02	.1018E-01	.5559E+02
.8806E+02	.5788E-02	.9104E+02	.3593E-02	.9371E+02
.9777E+02	.3992E-03	.1033E+03	.1795E-02	.1069E+02
.1111E+03	.3992E-02	.1147E+03	.4998E-02	.1189E+03
.1227E+03	.5988E-02	.1273E+03	.5988E-02	.1313E+03
.1346E+03	.5788E-02	.1377E+03	.5788E-02	.1412E+03
.1456E+03	.4391E-02	.1490E+03	.4192E-02	.1520E+03
.1566E+03	.2395E-02	.1627E+03	.2196E-02	.1704E+03
.1769E+03	0.	.1819E+03	.5908E-03	.1878E+03
.1916E+03	.1996E-02	.1959E+03	.2196E-02	.2000E+03
254	2	11	4	
.5973E-01	.3366E-02	.7982E-01	.3366E-02	.1002E+00
.1056E+00	.3366E-02	.1100E+00	.2574E-02	.1151E+00
.1203E+00	.9901E-03	.1261E+00	.9901E-03	.1303E+00
.1300E+00	0.	.1000E+01	0.	0.
255	2	23	8	
.7946E+02	.7075E-03	.8029E+02	.6779E-03	.8402E+02
.8903E+02	.5632E-03	.9642E+02	.6585E-03	.1034E+03
.1094E+03	.2628E-03	.1174E+03	.1403E-03	.1206E+03
.1255E+03	.1976E-04	.1297E+03	.3557E-04	.1355E+03
.1396E+03	.1443E-03	.1439E+03	.1759E-03	.1463E+03
.1500E+03	.2234E-03	.1550E+03	.2510E-03	.1623E+03
.1687E+03	.2877E-03	.1761E+03	.2826E-03	.1335E+03
.1947E+03	.2802E-03	.2002E+03	.2846E-03	0.
256	2	28	10	
.6028E-01	.6016E-03	.6990E-01	.6016E-03	.8000E-01
.9517E-01	.5936E-03	.9002E-01	.5956E-03	.9600E-01
.1006E+00	.5815E-03	.1061E+00	.5694E-03	.1101E+00
.1138E+00	.5473E-03	.1179E+00	.5352E-03	.1209E+00
.1234E+00	.4909E-03	.1270E+00	.4527E-03	.1304E+00
.1331E+00	.3782E-03	.1352E+00	.3280E-03	.1369E+00
.1396E+00	.2394E-03	.1416E+00	.1791E-03	.1435E+00
.1505E+00	.7445E-04	.1470E+00	.5231E-04	.1484E+00
.1000E+01	0.	.3562E+00	0.	.1602E+00
257	2	20	7	
.6011E+02	.4672E-01	.8465E+02	.3877E-01	.8775E+02
.9149E+02	.2703E-01	.9531E+02	.2247E-01	.9785E+02
.1037E+03	.1213E-01	.1108E+03	.5169E-02	.1132E+03
.1200E+03	.1980E-02	.1255E+03	.5765E-02	.1325E+03
.1423E+03	.1193E-01	.1504E+03	.1312E-01	.1602E+03
.1710E+03	.1570E-01	.1800E+03	.1730E-01	.1895E+03
.1559E+03	.1948E-01	.1990E+03	.1948E-01	0.
258	2	26	9	
.6025E-01	.3877E-01	.7027E-01	.3877E-01	.8013E-01
.8760E-01	.9556E-01	.9556E-01	.3757E-01	.1001E+00
.1099E+00	.3718E-01	.1151E+00	.3658E-01	.1187E+00
.1214E+00	.3360E-01	.1237E+00	.3201E-01	.1260E+00
.1286E+00	.2763E-01	.1305E+00	.2465E-01	.1323E+00
.1346E+00	.1709E-01	.1370E+00	.1491E-01	.1386E+00
.1408E+00	.8748E-02	.1427E+00	.7356E-02	.1449E+00
.1471E+00	.1590E-02	.1502E+00	0.	.1558E+00
.1603E+00	0.	.1000E+01	0.	0.
259	2	26	9	
.8010E+02	.3976E-03	.8686E+02	.3976E-03	.8973E+02
.9650E+02	.5169E-03	.1007E+03	.5765E-03	.1069E+03
.1123E+03	.5344E-03	.1142E+03	.1047E-03	.1176E+03

.1231E+03	.1710E-02	.1270E+03	.1933E-02	.1311E+03	.2267E-02
.1376E+03	.2565E-02	.1431E+03	.2763E-02	.1406E+03	.3042E-02
.1520E+03	.3241E-02	.1503E+03	.3380E-02	.1618E+03	.3499E-02
.1666E+03	.3618E-02	.1710E+03	.3598E-02	.1749E+03	.3598E-02
.1802E+03	.3559E-02	.1861E+03	.3340E-02	.1912E+03	.3141E-02
.1966E+03	.2843E-02	.2001E+03	.2525E-02		
260		20	7		
.6026E-01	.2798E-02	.6967E-01	.2417E-02	.7764E-01	.2718E-02
.8729E-01	.2759E-02	.9550E-01	.2659E-02	.1008E+00	.2619E-02
.1079E+00	.2599E-02	.1142E+00	.2460E-02	.1185E+00	.2262E-02
.1224E+00	.2024E-02	.1273E+00	.1647E-02	.1303E+00	.1210E-02
.1336E+00	.2714E-03	.1356E+00	.4563E-03	.1373E+00	.2579E-03
.1391E+00	.1339E-03	.1405E+00	0.	.1453E+00	0.
.1492E+00	0.	.1003E+01	0.		
261		25	9		
.7382E+02	.1904E-01	.8754E+02	.3785E-01	.9437E+02	.3625E-01
.1023E+03	.3386E-01	.1105E+03	.2949E-01	.1163E+03	.2551E-01
.1209E+03	.1873E-01	.1261E+03	.1275E-01	.1298E+03	.4382E-02
.1348E+03	.5976E-02	.1385E+03	.1036E-01	.1437E+03	.1753E-01
.1479E+03	.2271E-01	.1518E+03	.2430E-01	.1546E+03	.2470E-01
.1580E+03	.2430E-01	.1615E+03	.2390E-01	.1656E+03	.2311E-01
.1695E+03	.1912E-01	.1767E+03	.1434E-01	.1830E+03	.6773E-02
.1859E+03	.3187E-02	.1918E+03	.2390E-02	.1952E+03	.5179E-02
.1980E+03	.1116E-01	23	8		
.6818E-01	.5617E-01	.7055E-01	.5697E-01	.7963E-01	.5299E-01
.8568E-01	.5259E-01	.9029E-01	.5299E-01	.1042E+00	.5100E-01
.1098E+00	.4821E-01	.1149E+00	.4701E-01	.1189E+00	.4462E-01
.1220E+00	.4104E-01	.1255E+00	.3546E-01	.1275E+00	.3028E-01
.1302E+00	.2629E-01	.1329E+00	.1992E-01	.1350E+00	.1554E-01
.1638E+00	.1076E-01	.1390E+00	.7969E-02	.1401E+00	.6375E-02
.1503E+00	0.	.1436E+00	0.	.1468E+00	0.
264		2	1		
.5566E+02	.7022E+00	.2002E+03	.7022E+00		
264		2	1		
.5974E+02	.9066E+00	.2003E+03	.9066E+00		
264		2	1		
.5974E+02	.1051E+01	.2002E+03	.1051E+01		
264		2	1		
.5982E+02	.1204E+01	.1999E+03	.1204E+01		
264		2	1		
.5566E+02	.1601E+01	.2002E+03	.1601E+01		
265		33	11		
.7598E+02	.6501E-02	.9213E+02	.5845E-02	.8388E+02	.5229E-02
.8355E+02	.4414E-02	.8618E+02	.3857E-02	.8953E+02	.3404E-02
.9129E+02	.2922E-02	.9367E+02	.2346E-02	.9598E+02	.1809E-02
.9853E+02	.1173E-02	.1017E+03	.3976E-03	.1049E+03	.2386E-03
.1087E+03	.8350E-03	.1114E+03	.1193E-02	.1140E+03	.1531E-02
.1259E+03	.2823E-02	.1294E+03	.3822E-02	.1343E+03	.3260E-02
.1392E+03	.3459E-02	.1447E+03	.3598E-02	.1435E+03	.3658E-02
.1538E+03	.3618E-02	.1600E+03	.3559E-02	.1639E+03	.3419E-02
.1689E+03	.2221E-02	.1723E+03	.2382E-02	.1785E+03	.2624E-02
.1828E+03	.2286E-02	.1873E+03	.1889E-02	.1916E+03	.1392E-02
.1953E+03	.9742E-03	.1982E+03	.5362E-03	.1999E+03	.4374E-03
266		24	8		
.6014E-01	.5509E-02	.7009E-01	.5509E-02	.8003E-01	.5469E-02
.9021E-01	.5449E-02	.9772E-01	.5349E-02	.1022E+00	.521E-02
.1067E+00	.5230E-02	.1107E+00	.5130E-02	.1159E+00	.4950E-02
.1211E+00	.4711E-02	.1248E+00	.4431E-02	.1281E+00	.4092E-02
.1306E+00	.3653E-02	.1330E+00	.3214E-02	.1351E+00	.2515E-02
.1367E+00	.2176E-02	.1387E+00	.1597E-02	.1405E+00	.1078E-02
.1422E+00	.6786E-03	.1439E+00	.3792E-03	.1461E+00	.1766E-03
.1483E+00	0.	.1502E+00	0.	.1000E+01	0.
267		35	12		
.8024E+02	.1992E+02	.3438E+03	.1992E+02	.7071E+03	.1408E+00





.1252E+03	-1720E-02	.1299E+03	-194JE-02	.1327E+03	-2346E-02
.1354E+03	-2120E-02	.1389E+03	-2200E-02	.1425E+03	-2100E-02
.1477E+03	-1820E-02	.1545E+03	-1520E-02	.1612E+03	-1240E-02
.1666E+03	-7400E-03	.1710E+03	-3600E-03	.1764E+03	.1000E-03
.1830E+03	.7200E-03	.1892E+03	.1300E-02	.1936E+03	.1780E-02
.1959E+03	.2160E-02	.1996E+03	.2580E-02		
274		23	8		
.6003E-01	.2385E-02	.6807E-01	.2385E-02	.7834E-01	.2385E-02
.702E-01	.2385E-02	.9546E-01	.2385E-02	.1036E+00	.2385E-02
.1096E+00	.2385E-02	.1154E+00	.2265E-02	.1200E+00	.2244E-02
.1240E+00	.2064E-02	.1268E+00	.1784E-02	.1295E+00	.1633E-02
.1314E+00	.1363E-02	.1333E+00	.1122E-02	.1353E+00	.7416E-03
.1373E+00	.5412E-03	.1394E+00	.3407E-03	.1408E+00	.2405E-03
.1432E+00	0.	.1462E+00	0.	.1548E+00	0.
.1600E+00	0.	.1000E+01	0.		
275	2	29	10		
.3024E+02	-1444E+00	.9573E+02	-1301E+00	.9970E+02	-1030E+00
.9272E+02	-7425E-01	.9590E+02	-5110E-01	.9893E+02	-3114E-01
.1015E+03	-1038E-01	.1052E+03	.7186E-02	.1078E+03	.1437E-01
.1101E+03	.2315E-01	.1132E+03	.2635E-01	.1180E+03	.2635E-01
.1229E+03	.2635E-01	.1268E+03	.2555E-01	.1336E+03	.2156E-01
.1381E+03	.1437E-01	.1440E+03	.9581E-02	.1492E+03	-2395E-02
.1552E+03	-5581E-02	.1592E+03	-2315E-01	.1640E+03	-3353E-01
.1603E+03	-4631E-01	.1746E+03	-6307E-01	.1796E+03	-7984E-01
.1832E+03	-9182E-01	.1878E+03	-1078E+00	.1928E+03	-1285E+00
.1969E+03	-1495E+00	.1997E+03	-1501E+00		
276	2	18	6		
.6006E-01	-2857E-01	.6969E-01	-2857E-01	.7901E-01	-3016E-01
.8467E-01	-3095E-01	.9415E-01	-3175E-01	.1012E+00	-2540E-01
.1085E+00	-2698E-01	.1134E+00	-2778E-01	.1189E+00	-2460E-01
.1220E+00	-1587E-01	.1254E+00	-1111E-01	.1269E+00	-4762E-02
.1320E+00	0.	.1391E+00	0.	.1485E+00	0.
.1565E+00	0.	.1601E+00	0.	.1030E+01	0.
277	2	22	8		
.8068E+02	.2262E-02	.8546E+02	.2043E-02	.8961E+02	.1964E-02
.9606E+02	.1746E-02	.9988E+02	.1647E-02	.1053E+03	.1647E-02
.1098E+03	.1528E-02	.1173E+03	.1567E-02	.1272E+03	.1667E-02
.1362E+03	.1726E-02	.1447E+03	.1905E-02	.1501E+03	.1944E-02
.1560E+03	.2183E-02	.1621E+03	.2262E-02	.1684E+03	.2421E-02
.1741E+03	.2679E-02	.1803E+03	.2857E-02	.1856E+03	.3135E-02
.1902E+03	.3254E-02	.1951E+03	.3472E-02	.1990E+03	.3551E-02
.2002E+03	.3671E-02				
278	2	27	9		
.6014E-01	.2919E-02	.6977E-01	.2919E-02	.7971E-01	.2919E-02
.8974E-01	.2919E-02	.9793E-01	.2899E-02	.1052E+00	.2460E-02
.1107E+00	.2781E-02	.1136E+00	.2761E-02	.1176E+00	.2722E-02
.1210E+00	.2505E-02	.1244E+00	.2388E-02	.1258E+00	.2189E-02
.1272E+00	.2032E-02	.1290E+00	.1834E-02	.1306E+00	.1598E-02
.1317E+00	.1741E-02	.1355E+00	.1203E-02	.1353E+00	.9278E-03
.1372E+00	.7101E-03	.1391E+00	.4931E-03	.1405E+00	.4142E-03
.1414E+00	.3156E-03	.1429E+00	.2767E-03	.1451E+00	0.
.1497E+00	0.	.1598E+00	0.	.1000E+01	0.
279	2	18	6		
.8803E+02	.6099E-01	.8290E+02	.4752E-01	.8767E+02	.1743E-01
.9499E+02	-1267E-01	.1014E+03	-4119E-01	.1065E+03	-6020E-01
.1102E+03	-7287E-01	.1149E+03	-8475E-01	.1278E+03	-1089E+00
.1351E+03	-1204E+00	.1430E+03	-1323E+00	.1508E+03	-1450E+00
.1613E+03	-1592E+00	.1699E+03	-1695E+00	.1791E+03	-1814E+00
.1873E+03	-1309E+00	.1944E+03	-2020E+00	.1997E+03	-2099E+00
280	2	20	7		
.6023E-01	-1222E+00	.6993E-01	-1222E+00	.7961E-01	-1222E+00
.9015E-01	-1222E+00	.9924E-01	-1222E+00	.1075E+00	-1151E+00
.1138E+00	-1079E+00	.1191E+00	-1008E+00	.1228E+00	-9127E-01
.1270E+00	-7063E-01	.1294E+00	-4921E-01	.1314E+00	-3095E-01
.1331E+00	-2222E-01	.1343E+00	-1587E-01	.1356E+00	-3730E-02
.1374E+00	0.	.1427E+00	0.	.1448E+00	0.

1598E+00	0.	1300E+01	0.	100E+03	-151E-04
201	1	13	5	100E+03	199E-05
800E+02	-243E-04	900E+02	-195E-04	100E+03	151E-04
110E+03	-916E-05	119E+03	-478E-05	100E+03	163E-04
1390E+03	597E-05	109E+03	116E-04	159E+03	336E-04
1698E+03	262E-04	181E+03	269E-04	191E+03	
1998E+03	302E-04				
282	1	18	6		
442E+02	-542E-02	980E+02	-363E-02	935E+02	-191E-02
982E+02	-782E-03	101E+03	-159E-03	103E+03	103E-02
114E+03	163E-02	121E+03	231E-02	129E+03	255E-02
1338E+03	263E-02	140E+03	275E-02	149E+03	239E-02
1593E+03	167E-02	169E+03	798E-03	180E+03	-199E-03
1869E+03	-798E-03	194E+03	-155E-02	200E+03	-247E-02
284	1	2	1		
600E+02	700E+00	200E+03	701E+00		
284	2	2	1		
5990E+02	900E+00	1998E+03	900E+00		
284	3	2	1		
600E+02	120E+01	1998E+03	120E+01		
284	4	2	1		
5998E+02	159E+01	1998E+03	159E+01		
285	1	20	7		
804E+02	216E-03	856E+02	170E-03	904E+02	142E-03
999E+02	122E-03	989E+02	961E-04	105E+03	758E-04
112E+03	636E-04	118E+03	503E-04	126E+03	415E-04
111E+03	375E-04	135E+03	375E-04	141E+03	399E-04
1499E+03	471E-04	158E+03	574E-04	164E+03	630E-04
1726E+03	718E-04	181E+03	910E-04	188E+03	106E-03
1588E+03	122E-03	199E+03	132E-03		
286	1	17	6		
421E+02	-117E-01	861E+02	-976E-02	921E+02	-896E-02
370E+02	-801E-02	102E+03	-695E-02	109E+03	-642E-02
118E+03	-547E-02	124E+03	-476E-02	133E+03	-452E-02
1403E+03	-460E-02	148E+03	-484E-02	155E+03	-468E-02
176E+03	-539E-02	179E+03	-650E-02	187E+03	-714E-02
154E+03	-761E-02	200E+03	-793E-02		
287	1	13	5		
800E+02	109E-03	919E+02	946E-04	102E+03	827E-04
1159E+03	572E-04	124E+03	389E-04	136E+03	151E-04
1480E+03	-715E-04	160E+03	-381E-04	170E+03	-636E-04
180E+03	-642E-04	187E+03	-102E-03	192E+03	-116E-03
200E+03	-139E-03				
288	1	13	5		
405E+02	-437E-02	880E+02	-469E-02	971E+03	-524E-02
108E+03	-532E-02	118E+03	-421E-02	129E+03	-341E-02
137E+03	-270E-02	148E+03	-199E-02	158E+03	-397E-03
1724E+03	127E-02	182E+03	278E-02	191E+03	469E-02
199E+03	596E-02				
289	1	32	11		
803E+02	210E-03	846E+02	164E-03	871E+02	148E-03
853E+02	129E-03	918E+02	110E-03	942E+02	942E-04
964E+02	815E-04	995E+02	627E-04	103E+03	451E-04
1061E+03	316E-04	109E+03	198E-04	111E+03	118E-04
1160E+03	-316E-05	120E+03	-158E-04	123E+03	-261E-04
1281E+03	-324E-04	131E+03	-435E-04	135E+03	-475E-04
1402E+03	-499E-04	145E+03	-514E-04	149E+03	538E-04
151E+03	-538E-04	156E+03	-522E-04	161E+03	-615E-04
162E+03	-443E-04	172E+03	-356E-04	179E+03	-433E-04
184E+03	-150E-04	189E+03	-594E-05	194E+03	-269E-04
1974E+03	118E-04	199E+03	213E-04		396E-05
290	1	13	5		
757E+02	381E-02	882E+02	238E-02	948E+02	119E-02
187E+03	0.	117E+03	-158E-02	125E+03	-222E-02
1360E+03	-285E-02	145E+03	-325E-02	156E+03	-388E-02
1705E+03	-456E-02	180E+03	-452E-02	190E+03	-491E-02

.1590E+00	-4321E-02	14	5	.9972E+02	-1156E-03
251					
.8014E+02	-3393E-03	14		.9972E+02	-1156E-03
.1051E+03	-6387E-04			.1254E+03	.1876E-03
.1311E+03	.2515E-03			.1513E+03	.4930E-03
.1604E+03	.5828E-03			.1877E+03	.8942E-03
.1955E+03	.5860E-03	16	6		
292					
.7994E+02	.7136E-01	14		.8633E+02	.3952E-01
.9467E+02	.2315E-01			.1065E+03	.6387E-02
.1142E+03	.1996E-01			.1269E+03	.3832E-01
.1346E+03	.4910E-01			.1505E+03	.6188E-01
.1669E+03	.6966E-01			.1811E+03	.7425E-01
.1893E+03	.7505E-01	2	1	.2000E+03	.7500E-01
294					
.6010E+02	.7014E+00	2	1		
294					
.6042E+02	.9029E+00	2	1		
294					
.6026E+02	.1204E+01	2	1		
294					
.5994E+02	.1603E+01	2	1		
295					
.7997E+02	.1101E-02	20	7	.3124E+02	.6653E-03
.9916E+02	.3406E-03			.1112E+03	.7921E-04
.1187E+03	.2376E-03			.1280E+03	.4356E-03
.1312E+03	.4515E-03			.1431E+03	.3564E-03
.1518E+03	.2235E-03			.1675E+03	.9505E-04
.1746E+03	.2931E-03			.1885E+03	.6653E-03
.1943E+03	.8317E-03	19	7		
296					
.8014E+02	.7273E-01	19		.9214E+02	.3320E-01
.9878E+02	.1423E-01			.1128E+03	.1897E-01
.1199E+03	.3320E-01			.1293E+03	.4427E-01
.1362E+03	.4348E-01			.1510E+03	.3241E-01
.1611E+03	.1976E-01			.1775E+03	.7115E-02
.1841E+03	.2292E-01			.1952E+03	.4301E-01
.2000E+03	.6008E-01	19	7		
297					
.9043E+02	.2016E-02	19		.3263E+02	.1100E-02
.9804E+02	.6693E-03			.1130E+03	.2350E-03
.1194E+03	.5418E-03			.1293E+03	.9606E-03
.1313E+03	.8685E-03			.1414E+03	.7410E-03
.1483E+03	.5817E-03			.1664E+03	.1136E-03
.1763E+03	.2390E-03			.1913E+03	.8367E-03
.1982E+03	.1179E-02	19	7		
298					
.3485E+02	.7302E-01	19		.9582E+02	.3175E-01
.1021E+03	.9524E-02			.1157E+03	.2857E-01
.1209E+03	.3651E-01			.1313E+03	.5159E-01
.1369E+03	.4921E-01			.1509E+03	.4365E-01
.1576E+03	.3333E-01			.1740E+03	.3175E-02
.1793E+03	.7143E-02			.1920E+03	.3413E-01
.1998E+03	.5714E-01	19	7		
299					
.8046E+02	.2277E-02	21		.9081E+02	.1385E-02
.9598E+02	.9313E-03			.1064E+03	.1592E-03
.1109E+03	.1433E-03			.1215E+03	.7164E-03
.1271E+03	.4597E-03			.1357E+03	.7721E-03
.1421E+03	.6209E-03			.1574E+03	.1274E-03
.1671E+03	.3264E-03			.1828E+03	.1043E-02
.1884E+03	.1385E-02	23	6	.1999E+03	.2022E-02
300					
.7994E+02	.2851E+00	23		.9951E+02	.1239E+00
.9469E+02	.7101E-01			.1074E+03	.1341E-01
.1124E+03	.4774E-01				.7574E-01

.1240E+03	.395E+01	.1260E+03	.3540E+01	.1297E+03	.9546E+01
.1359E+03	.6310E-01	.1414E+03	.8915E-01	.1466E+03	.7337E-01
.1420E+03	.6391E-01	.1500E+03	.4410E-01	.1667E+03	.1570E-01
.1730E+03	-.7101E-02	.1815E+03	-.3787E-01	.1869E+03	-.6075E-01
.1930E+03	-.8204E-01	.2000E+03	-.1200E+00		
281	2	28	10		
.7990E+02	.9323E-04	.8317E+02	.6614E-04	.8540E+02	.4761E-04
.9794E+02	.3108E-04	.9025E+02	.1514E-04	.9168E+02	.5179E-05
.9351E+02	-.1195E-04	.9662E+02	-.2550E-04	.9877E+02	-.3566E-04
.1003E+03	-.4422E-04	.1030E+03	-.5219E-04	.1057E+03	-.5817E-04
.1675E+03	-.6335E-03	.1097E+03	-.6494E-04	.1137E+03	-.6375E-04
.1257E+03	-.2988E-04	.1289E+03	-.1275E-04	.1305E+03	-.5578E-05
.1360E+03	.2550E-04	.1467E+03	.8367E-04	.1542E+03	.1323E-03
.1597E+03	.1657E-03	.1647E+03	.1984E-03	.1686E+03	.2311E-03
.1782E+03	.2825E-03	.1858E+03	.3239E-03	.1933E+03	.3777E-03
.1966E+03	.4179E-03				
282	2	23	8		
.8442E+02	-.4232E-02	.8704E+02	-.3194E-02	.9191E+02	-.1517E-02
.9861E+02	.7186E-03	.1056E+03	.2236E-02	.1103E+03	.2675E-02
.1149E+03	.2435E-02	.1165E+03	.1637E-02	.1231E+03	.5569E-03
.1279E+03	-.1158E-02	.1330E+03	-.2754E-02	.1382E+03	-.4630E-02
.1464E+03	-.8224E-02	.1503E+03	-.1010E-01	.1573E+03	-.1329E-01
.1625E+03	-.1581E-01	.1715E+03	-.2032E-01	.1774E+03	-.2339E-01
.1820E+03	-.2551E-01	.1876E+03	-.2890E-01	.1920E+03	-.3114E-01
.1960E+03	-.3125E-01	.1995E+03	-.3557E-01		
284	1	2	1		
.6006E+02	.7006E+00	.2000E+03	.7014E+00		
284	2	2	1		
.5990E+02	.5005E+00	.1998E+03	.9005E+00		
284	3	2	1		
.6006E+02	.1202E+01	.1998E+03	.1202E+01		
284	4	2	1		
.5990E+02	.1596E+01	.1998E+03	.1597E+01		
285	2	21	7		
.7982E+02	-.5190E-04	.9221E+02	-.1180E-04	.8452E+02	.2475E-04
.8794E+02	.6228E-04	.9160E+02	.8862E-04	.9694E+02	.1198E-03
.1025E+03	.1405E-03	.1092E+03	.1597E-03	.1159E+03	.1693E-03
.1203E+03	.1717E-03	.1300E+03	.1693E-03	.1387E+03	.1549E-03
.1443E+03	.1341E-03	.1570E+03	.1078E-03	.1635E+03	.8313E-04
.1702E+03	.5908E-04	.1769E+03	.2954E-04	.1815E+03	.1338E-04
.1879E+03	-.2395E-04	.1931E+03	-.4790E-04	.1996E+03	-.8713E-04
286	2	18	6		
.3013E+02	.1968E-02	.9507E+02	-.4921E-02	.9016E+02	-.6349E-02
.9462E+02	-.7302E-02	.1010E+03	.8254E-02	.1094E+03	-.9127E-02
.1166E+03	-.9762E-02	.1211E+03	-.9941E-02	.1294E+03	-.9365E-02
.1385E+03	-.8492E-02	.1458E+03	-.7694E-02	.1557E+03	-.6425E-02
.1643E+03	-.5000E-02	.1769E+03	-.2698E-02	.1827E+03	-.8730E-03
.1912E+03	.1667E-02	.1978E+03	.3095E-02	.2002E+03	.4524E-02
287	2	18	6		
.7928E+02	.3913E-03	.8287E+02	.3443E-03	.8749E+02	.2741E-03
.9315E+02	.2139E-03	.9689E+02	.1702E-03	.1034E+03	.1261E-03
.1080E+03	.8907E-04	.1144E+03	.4692E-04	.1203E+03	.1431E-04
.1279E+03	-.2386E-04	.1356E+03	.5089E-04	.1429E+03	-.7078E-04
.1468E+03	-.8509E-04	.1525E+03	-.9622E-04	.1666E+03	-.1201E-03
.1708E+03	-.1344E-03	.1888E+03	-.1471E-03	.2001E+03	-.1495E-03
288	2	14	5		
.9466E+02	-.1105E-01	.9119E+02	-.6588E-02	.9709E+02	-.6799E-02
.1065E+03	-.1056E-02	.1175E+03	-.1034E-02	.1275E+03	.1550E-02
.1376E+03	.3738E-02	.1492E+03	.5646E-02	.1617E+03	.8509E-02
.1711E+03	.1002E-01	.1812E+03	.1153E-01	.1927E+03	.1360E-01
.2001E+03	.1455E-01				
289	2	41	14		
.8045E+02	-.3604E-03	.9236E+02	-.2927E-03	.9459E+02	-.2226E-03
.8618E+02	-.1640E-03	.8849E+02	-.1030E-03	.9072E+02	-.3723E-04
.9223E+02	.7921E-04	.9431E+02	.5627E-04	.9614E+02	.0267E-04

.1947E+03	.2400E+03	.1064E+03	.2574E+03	.1062E+03	.2764E+03
.1107E+03	.2875E+03	.1128E+03	.2923E+03	.1149E+03	.2439E+03
.1176E+03	.2907E+03	.1196E+03	.2859E+03	.1277E+03	.2709E+03
.1237E+03	.2558E+03	.1259E+03	.2337E+03	.1336E+03	.2131E+03
.1295E+03	.1861E+03	.1309E+03	.1671E+03	.1392E+03	.1220E+03
.1358E+03	.7446E+04	.1377E+03	.4736E+04	.1440E+03	.1430E+04
.1409E+03	.2851E+04	.1424E+03	.7366E+04	.1513E+03	.1118E+03
.1463E+03	.1592E+03	.1481E+03	.2139E+03	.1587E+03	.2970E+03
.1536E+03	.3564E+03	.1561E+03	.4317E+03		
.1600E+03	.5410E+03	.1626E+03	.5949E+03		
	290	25	9		
.7994E+02	.9206E+02	.8352E+02	.5475E+02	.8527E+02	.3492E+02
.9766E+02	.1270E+02	.8949E+02	.8733E+02	.9307E+02	.4206E+02
.9850E+02	.6587E+02	.9904E+02	.6492E+02	.1024E+03	.1040E+01
.1059E+03	.1135E+01	.1091E+03	.1230E+01	.1124E+03	.1151E+01
.1172E+03	.1016E+01	.1212E+03	.7540E+02	.1249E+03	.4941E+02
.1293E+03	.1190E+02	.1325E+03	.1503E+02	.1376E+03	.6344E+02
.1456E+03	.1421E+01	.1534E+03	.2222E+01	.1607E+03	.2913E+01
.1664E+03	.3611E+01	.1734E+03	.4325E+01	.1760E+03	.4361E+01
.1812E+03	.5198E+01				
	291	26	5		
.4126E+02	.4427E+03	.8317E+02	.3593E+03	.8651E+02	.1517E+03
.9426E+02	.5980E+04	.9049E+02	.7984E+04	.9439E+02	.2914E+03
.9725E+02	.4351E+03	.1013E+03	.6063E+03	.1051E+03	.6986E+03
.1074E+03	.7425E+03	.1102E+03	.7565E+03	.1145E+03	.7465E+03
.1196E+03	.6587E+03	.1240E+03	.5429E+03	.1270E+03	.4591E+03
.1306E+03	.3313E+03	.1353E+03	.1557E+03	.1416E+03	.6367E+04
.1467E+03	.2675E+03	.1513E+03	.4631E+03	.1608E+03	.8743E+03
.1689E+03	.1210E+02	.1761E+03	.1549E+02	.1835E+03	.1888E+02
.1920E+02	.2248E+02	.1998E+03	.2607E+02		
	292	26	9		
.8002E+02	.3633E+01	.8312E+02	.2395E+01	.8710E+02	.6387E+02
.9076E+02	.5190E+02	.9451E+02	.1876E+01	.9831E+02	.3114E+01
.9914E+03	.3952E+01	.1046E+03	.4591E+01	.1068E+03	.4916E+01
.1049E+03	.5269E+01	.1134E+03	.5030E+01	.1174E+03	.4631E+01
.1229E+03	.3872E+01	.1269E+03	.3234E+01	.1303E+03	.2475E+01
.1338E+03	.1637E+01	.1372E+03	.7186E+02	.1426E+03	.4351E+02
.1486E+03	.2196E+01	.1544E+03	.3573E+01	.1621E+03	.5749E+01
.1693E+03	.7705E+01	.1785E+03	.1034E+01	.1833E+03	.1182E+00
.1914E+03	.1405E+00	.1994E+03	.1641E+00		
	294	2	1		
.5010E+02	.7014E+03	.2000E+03	.7014E+00		
	294	2	1		
.5042E+02	.5029E+00	.2002E+03	.9029E+00		
	294	2	1		
.5046E+02	.1204E+01	.2001E+03	.1204E+01		
	294	2	1		
.5994E+02	.1603E+01	.2002E+03	.1603E+01		
	295	30	10		
.7555E+02	.3406E+03	.8228E+02	.5703E+03	.8467E+02	.3188E+03
.9497E+02	.1267E+02	.9176E+02	.1491E+02	.9454E+02	.1671E+02
.9765E+02	.1909E+02	.9964E+02	.2059E+02	.1033E+03	.2273E+02
.1059E+03	.2321E+02	.1096E+03	.2392E+02	.1136E+03	.2376E+02
.1170E+03	.2257E+02	.1215E+03	.2020E+02	.1247E+03	.1806E+02
.1294E+03	.1442E+02	.1344E+03	.9663E+03	.1382E+03	.6495E+02
.1419E+03	.2614E+03	.1458E+03	.2059E+03	.1509E+03	.7129E+03
.1576E+03	.1552E+02	.1629E+03	.2186E+02	.1702E+03	.3065E+02
.1771E+03	.3976E+02	.1816E+03	.9491E+02	.1872E+03	.5228E+02
.1917E+03	.5798E+02	.1956E+03	.6295E+02	.1994E+03	.6141E+02
	296	22	8		
.9041E+02	.3794E+01	.3839E+02	.6877E+01	.9390E+02	.8196E+01
.1012E+03	.1115E+00	.1057E+03	.1178E+00	.1094E+03	.1217E+00
.1157E+03	.1822E+00	.1189E+03	.1115E+00	.1225E+03	.1012E+00
.1272E+03	.8538E+01	.1311E+03	.6640E+01	.1354E+03	.5136E+01
.1414E+03	.2213E+01	.1402E+03	.1107E+01	.1571E+03	.4980E+01
.1541E+03	.5177E+01			.1774E+03	.1774E+01

1744E+03	-2063E+02	1702E+03	-2531E+01	1960E+03	-2933E+00
1599E+03	-1209E+00	20	7		
297					
7495E+02	-2151E-02	6290E+02	-2207E-02	8577E+02	-2255E-02
9024E+02	-2191E-02	9664E+02	-2143E-02	1002E+03	-2048E-02
1083E+03	-1745E-02	1133E+03	-1506E-02	1267E+03	-7570E-03
1303E+03	-4781E-03	1345E+03	-1594E-03	1301E+03	1355E-03
1449E+03	7570E-03	1515E+03	1363E-02	1508E+03	2024E-02
1680E+03	2092E-02	1748E+03	3602E-02	1617E+03	4311E-02
1894E+03	5004E-02	2001E+03	6191E-02		
298		19	7		
8011E+02	6508E-01	8577E+02	7143E-01	9310E+02	8016E-01
9989E+02	6571E-01	1045E+03	9206E-01	1102E+03	9040E-01
1162E+03	7648E-01	1221E+03	6429E-01	1306E+03	4286E-01
1354E+03	2381E-01	1440E+03	-6349E-02	1513E+03	-3175E-01
1578E+03	-6270E-01	1680E+03	-1079E+00	1750E+03	-1421E+00
1832E+03	-1841E+00	1910E+03	-2278E+00	1957E+03	-2540E+00
1999E+03	-2762E+00				
299		25	9		
7492E+02	5413E-03	8428E+02	-9552E-04	8715E+02	-5174E-03
9200E+02	-1174E-02	9829E+02	-1910E-02	1030E+03	-2348E-02
1071E+03	-2468E-02	1094E+03	-2563E-02	1105E+03	-2643E-02
1144E+03	-2587E-02	1191E+03	-2348E-02	1226E+03	-2094E-02
1266E+03	-1831E-02	1285E+03	-1705E-02	1320E+03	-7493E-03
1360E+03	-3552E-04	1412E+03	7323E-03	1452E+03	1713E-02
1499E+03	2434E-02	1538E+03	3781E-02	1563E+03	4418E-02
1601E+03	5294E-02	1642E+03	6297E-02	1676E+03	7369E-02
1710E+03	7360E-02				
300		26	9		
7946E+02	-2367E-01	8432E+02	1026E-01	9007E+02	4477E-01
9171E+02	8757E-01	1009E+03	1034E+00	1041E+03	1120E+00
1071E+03	1152E+02	1090E+03	1207E+00	1132E+03	1113E+00
1172E+03	1097E+00	1195E+03	9310E-01	1236E+03	7179E-01
1264E+03	4970E-01	1295E+03	2209E-01	1333E+03	-1163E-01
1371E+03	-4497E-01	1412E+03	-8000E-01	1473E+03	-1460E+00
1543E+03	-2193E+00	1591E+03	-2682E+00	1657E+03	-3432E+00
1715E+03	-4087E+00	1789E+03	-4076E+00	1863E+03	-5767E+00
1830E+03	-6477E+00	1999E+03	-7798E+00		
301		42	14		
5000E+00	-6786E-03	5521E+00	-6786E-03	6006E+00	-9980E-03
6531E+00	-1038E-02	6909E+00	-8383E-03	7478E+00	-1477E-02
8003E+00	-1036E-02	8341E+00	-2355E-02	8616E+00	-2794E-02
8522E+00	-3513E-02	9212E+00	-4591E-02	9491E+00	-6068E-02
9678E+00	-7265E-02	9861E+00	-8463E-02	1012E+01	-1066E-01
1025E+01	-1162E-01	1039E+01	-1341E-01	1051E+01	-1449E-01
1065E+01	-1561E-01	1075E+01	-1621E-01	1088E+01	-1665E-01
1105E+01	-1737E-01	1113E+01	-1733E-01	1130E+01	-1637E-01
1181E+01	-1477E-01	1181E+01	-1349E-01	1208E+01	-1234E-01
1239E+01	-1074E-01	1277E+01	-9501E-02	1314E+01	-9263E-02
1346E+01	-7345E-02	1368E+01	-6747E-02	1433E+01	-5190E-02
1473E+01	-4511E-02	1507E+01	-8072E-02	1558E+01	-3713E-02
1590E+01	-2914E-02	1648E+01	-2675E-02	1713E+01	-2275E-02
1796E+01	-2156E-02	1898E+01	-1916E-02	2006E+01	-1717E-02
302		61	21		
5000E+00	6178E-02	4956E+00	6139E-02	5476E+00	6059E-02
5980E+00	5703E-02	6485E+00	5023E-02	6976E+00	5901E-02
7470E+00	5980E-02	7904E+00	6297E-02	8506E+00	6733E-02
8689E+00	7248E-02	8613E+00	7406E-02	9028E+00	7446E-02
9544E+00	7287E-02	9227E+00	-6693E-02	9327E+00	6099E-02
9458E+00	4871E-02	9538E+00	5881E-02	9661E+00	2653E-02
9793E+00	8713E-03	9912E+00	-7525E-03	9984E+00	-2139E-02
1008E+01	-3406E-02	1015E+01	-4911E-02	1021E+01	-5743E-02
1030E+01	-7168E-02	1039E+01	-7842E-02	1047E+01	-8277E-02
1059E+01	-8634E-02	1074E+01	-8396E-02	1086E+01	-8119E-02
1096E+01	-7564E-02	1110E+01	-5535E-02	1119E+01	-5713E-02
1133E+01	-4394E-02	1145E+01	-2674E-02	1154E+01	-1744E-02



.194E+00	.1074E-01	.930E+00	.1373E-01	.431E+00	.503E-01
.954E+00	.150E-01	.973E+00	.1373E-01	.954E+00	.125E-01
.100E+01	.112E-01	.102E+01	.1024E-01	.1053E+01	.809E-02
.107E+01	.110E-01	.110E+01	.874E-02	.112E+01	.567E-02
.115E+01	.692E-02	.117E+01	.444E-02	.120E+01	.404E-02
.123E+01	.357E-02	.126E+01	.337E-02	.129E+01	.313E-02
.134E+01	.313E-02	.133E+01	.313E-02	.144E+01	.297E-02
.149E+01	.293E-02	.160E+01	.297E-02	.169E+01	.277E-02
.179E+01	.269E-02	.199E+01	.269E-02	.194E+01	.257E-02
.200E+01	.254E-02				
304	1	38	13		
.500E+00	.183E-01	.549E+00	.181E-01	.601E+00	.180E-01
.500E+00	.179E-01	.700E+00	.177E-01	.749E+00	.175E-01
.796E+00	.173E-01	.949E+00	.170E-01	.899E+00	.157E-01
.949E+00	.159E-01	.100E+01	.149E-01	.102E+01	.142E-01
.103E+01	.139E-01	.105E+01	.136E-01	.107E+01	.127E-01
.109E+01	.113E-01	.110E+01	.102E-01	.112E+01	.856E-02
.114E+01	.677E-02	.117E+01	.342E-02	.119E+01	.155E-02
.120E+01	.358E-03	.121E+01	.376E-03	.123E+01	.171E-02
.125E+01	.259E-02	.127E+01	.336E-02	.129E+01	.402E-02
.131E+01	.474E-02	.135E+01	.576E-02	.138E+01	.661E-02
.143E+01	.741E-02	.149E+01	.956E-02	.155E+01	.924E-02
.160E+01	.580E-02	.170E+01	.106E-01	.180E+01	.109E-01
.190E+01	.108E-01	.200E+01	.108E-01		
304	2	35	12		
.500E+00	.540E-02	.551E+00	.924E-02	.599E+00	.890E-02
.546E+00	.852E-02	.690E+00	.820E-02	.749E+00	.772E-02
.799E+00	.713E-02	.950E+00	.613E-02	.900E+00	.541E-02
.949E+00	.434E-02	.994E+00	.318E-02	.105E+01	.159E-02
.107E+01	.438E-03	.110E+01	.438E-03	.117E+01	.916E-03
.114E+01	.247E-02	.116E+01	.350E-02	.119E+01	.402E-02
.119E+01	.466E-02	.121E+01	.494E-02	.124E+01	.506E-02
.130E+01	.529E-02	.140E+01	.621E-02	.147E+01	.649E-02
.150E+01	.697E-02	.151E+01	.725E-02	.160E+01	.753E-02
.165E+01	.733E-02	.170E+01	.761E-02	.175E+01	.772E-02
.180E+01	.757E-02	.184E+01	.764E-02	.189E+01	.757E-02
.195E+01	.757E-02	.200E+01	.733E-02		
304	3	42	14		
.500E+00	.757E-03	.550E+00	.796E-03	.600E+00	.996E-03
.533E+00	.119E-02	.651E+00	.151E-02	.681E+00	.175E-02
.717E+00	.270E-02	.740E+00	.386E-02	.771E+00	.454E-02
.797E+00	.581E-02	.819E+00	.705E-02	.834E+00	.932E-02
.853E+00	.952E-02	.867E+00	.114E-01	.877E+00	.126E-01
.886E+00	.135E-01	.891E+00	.145E-01	.904E+00	.156E-01
.912E+00	.159E-01	.927E+00	.162E-01	.949E+00	.159E-01
.970E+00	.147E-01	.103E+01	.127E-01	.105E+01	.122E-01
.107E+01	.109E-01	.113E+01	.103E-01	.119E+01	.932E-02
.125E+01	.856E-02	.130E+01	.792E-02	.135E+01	.725E-02
.140E+01	.653E-02	.146E+01	.597E-02	.152E+01	.565E-02
.156E+01	.510E-02	.161E+01	.470E-02	.169E+01	.418E-02
.175E+01	.350E-02	.179E+01	.358E-02	.184E+01	.311E-02
.189E+01	.270E-02	.195E+01	.262E-02	.200E+01	.239E-02
305	1	61	21		
.500E+00	.217E+00	.551E+00	.222E+00	.581E+00	.224E+00
.608E+00	.230E+00	.642E+00	.232E+00	.672E+00	.237E+00
.702E+00	.244E+00	.736E+00	.255E+00	.766E+00	.266E+00
.802E+00	.275E+00	.837E+00	.291E+00	.855E+00	.303E+00
.882E+00	.321E+00	.903E+00	.340E+00	.921E+00	.362E+00
.941E+00	.387E+00	.956E+00	.418E+00	.971E+00	.454E+00
.944E+00	.488E+00	.994E+00	.523E+00	.100E+01	.551E+00
.100E+01	.579E+00	.101E+01	.610E+00	.101E+01	.644E+00
.101E+01	.636E+00	.102E+01	.674E+00	.102E+01	.695E+00
.103E+01	.695E+00	.103E+01	.701E+00	.104E+01	.707E+00
.105E+01	.710E+00	.103E+01	.710E+00	.108E+01	.710E+00
.109E+01	.706E+00	.110E+01	.732E+00	.111E+01	.694E+00
.110E+01	.697E+00				



1178E+01	550E+00	1195E+01	5341E+00	1217E+01	6087E+00
1244E+01	5004E+00	1272E+01	5552E+00	1299E+01	5267E+00
1338E+01	4913E+00	1372E+01	6335E+00	1411E+01	4320E+00
1450E+01	3994E+00	1408E+01	4739E+00	1541E+01	3425E+00
1505E+01	3198E+00	1630E+01	3015E+00	1676E+01	2852E+00
1742E+01	2693E+00	1793E+01	2622E+00	1841E+01	2550E+00
1804E+01	2494E+00	1921E+01	2455E+00	1963E+01	2411E+00
2000E+01	2367E+00				
305					
500E+00	1798E+00	54	1842E+00	5846E+00	1458E+00
6165E+00	1902E+00	5432E+00	1957E+00	6937E+00	2049E+00
7435E+00	2128E+00	6583E+00	2256E+00	8319E+00	2395E+00
8626E+00	2546E+00	7861E+00	2765E+00	9164E+00	2940E+00
9335E+00	3127E+00	8945E+00	3369E+00	9681E+00	3544E+00
9813E+00	3907E+00	9534E+00	4284E+00	1010E+01	4674E+00
1020E+01	5116E+00	9972E+00	5717E+00	1034E+01	6051E+00
1038E+01	6210E+00	1029E+01	6353E+00	1056E+01	6449E+00
1066E+01	6520E+00	1047E+01	6556E+00	1082E+01	6566E+00
1098E+01	6544E+00	1076E+01	6723E+00	1130E+01	6365E+00
1144E+01	6218E+00	1114E+01	6472E+00	1170E+01	5824E+00
1195E+01	5581E+00	1159E+01	6047E+00	1244E+01	5064E+00
1274E+01	4722E+00	1215E+01	5395E+00	1342E+01	4111E+00
1375E+01	3831E+00	1308E+01	4304E+00	1445E+01	3377E+00
1403E+01	3194E+00	1409E+01	3596E+00	1545E+01	2868E+00
1629E+01	2725E+00	1526E+01	3011E+00	1566E+01	2439E+00
1818E+01	2379E+00	1700E+01	2570E+00	1767E+01	2319E+00
1931E+01	2275E+00	1849E+01	2363E+00	1890E+01	2232E+00
305		1970E+01	2244E+00	2000E+01	
500E+00	1508E+00	63	1532E+00	5826E+00	1563E+00
6117E+00	1575E+00	5405E+00	1619E+00	6894E+00	1691E+00
7340E+00	1754E+00	6452E+00	1842E+00	8196E+00	1953E+00
8574E+00	2077E+00	7782E+00	2256E+00	9160E+00	2466E+00
9371E+00	2697E+00	8881E+00	2900E+00	9677E+00	3159E+00
1015E+01	3421E+00	9538E+00	3684E+00	1004E+01	3542E+00
1036E+01	4300E+00	9936E+00	4563E+00	1030E+01	4921E+00
1046E+01	5183E+00	1022E+01	5442E+00	1042E+01	5613E+00
1070E+01	5908E+00	1039E+01	5828E+00	1062E+01	5872E+00
1106E+01	5844E+00	1054E+01	5931E+00	1094E+01	5896E+00
1132E+01	5633E+00	1079E+01	5792E+00	1123E+01	5720E+00
1164E+01	5215E+00	1114E+01	5494E+00	1151E+01	5374E+00
1208E+01	4523E+00	1143E+01	4945E+00	1195E+01	4690E+00
1272E+01	3851E+00	1179E+01	4225E+00	1251E+01	4062E+00
1348E+01	3302E+00	1236E+01	3648E+00	1323E+01	3465E+00
1438E+01	2952E+00	1294E+01	3171E+00	1404E+01	3079E+00
1538E+01	2653E+00	1377E+01	2848E+00	1511E+01	2737E+00
1675E+01	2347E+00	1401E+01	2526E+00	1511E+01	2431E+00
1801E+01	2216E+00	1595E+01	2291E+00	1647E+01	2264E+00
1818E+01	2061E+00	1720E+01	2176E+00	1755E+01	2104E+00
305		1836E+01	2041E+00	1881E+01	1981E+00
500E+00	1261E+00	1960E+01	1273E+00	2000E+01	
6714E+00	1325E+00	54	1273E+00	6029E+00	1309E+00
8104E+00	1464E+00	5452E+00	1352E+00	7718E+00	1428E+00
9729E+00	2470E+00	7129E+00	1563E+00	8629E+00	1687E+00
1039E+01	3286E+00	8511E+00	2065E+00	9582E+00	2264E+00
1033E+01	4237E+00	9407E+00	2735E+00	9988E+00	3015E+00
1043E+01	4841E+00	9881E+00	3522E+00	1027E+01	3326E+00
1050E+01	5287E+00	1019E+01	4452E+00	1040E+01	4638E+00
1066E+01	5402E+00	1037E+01	5040E+00	1046E+01	5124E+00
1082E+01	5410E+00	1046E+01	5287E+00	1059E+01	5355E+00
1124E+01	5275E+00	1055E+01	5410E+00	1080E+01	5422E+00
1146E+01	5032E+00	1104E+01	5376E+00	1115E+01	5319E+00
1167E+01	4571E+00	114E+01	5219E+00	1138E+01	5152E+00
1190E+01	4066E+00	1131E+01	4881E+00	1161E+01	4722E+00
1212E+01	3644E+00	1153E+01	4681E+00	1161E+01	4237E+00
		1173E+01	4365E+00	1181E+01	3815E+00
		1194E+01	3954E+00	1203E+01	3342E+00
		1224E+01	3537E+00	1237E+01	

1450E+01	1264E+01	5123E+00	1244E+01	3315E+00
1306E+01	1335E+01	2745E+00	1369E+01	2626E+00
1419E+01	1460E+01	2375E+00	1497E+01	2315E+00
1551E+01	1605E+01	2136E+00	1656E+01	2861E+00
1715E+01	1765E+01	1965E+00	1814E+01	1937E+00
1856E+01	1902E+01	1870E+00	1939E+01	1866E+00
1973E+01	2000E+01	1810E+00		
5000E+00	5472E+00	9349E-01	5934E+00	9269E-01
6428E+00	6910E+00	9269E-01	7264E+00	9468E-01
7758E+00	8061E+00	9985E-01	8339E+00	1042E+00
8491E+00	8666E+00	1138E+00	8945E+00	1229E+00
9128E+00	9311E+00	1448E+00	9738E+00	1579E+00
9542E+00	1070E+00	1878E+00	1076E+00	2061E+00
9885E+00	9988E+00	2510E+00	1099E+01	2765E+00
1014E+01	1021E+01	3171E+00	1026E+01	3365E+00
1030E+01	1035E+01	3767E+00	1040E+01	4042E+00
1043E+01	1044E+01	4352E+00	1045E+01	4452E+00
1047E+01	1049E+01	4635E+00	1052E+01	4694E+00
1057E+01	1063E+01	4886E+00	1070E+01	4849E+00
1081E+01	1097E+01	4849E+00	1109E+01	4906E+00
1113E+01	1125E+01	4674E+00	1127E+01	4658E+00
1135E+01	1141E+01	4432E+00	1145E+01	4348E+00
1153E+01	1160E+01	3807E+00	1184E+01	3672E+00
1173E+01	1181E+01	3305E+00	1222E+01	3143E+00
1197E+01	1204E+01	2860E+00	1222E+01	2749E+00
1222E+01	1232E+01	2586E+00	1248E+01	2526E+00
1274E+01	1295E+01	2359E+00	1316E+01	2319E+00
1346E+01	1391E+01	2184E+00	1422E+01	2148E+00
1477E+01	1512E+01	2053E+00	1563E+01	2005E+00
1611E+01	1661E+01	1921E+00	1701E+01	1878E+00
1750E+01	1798E+01	1770E+00	1833E+01	1738E+00
1854E+01	1943E+01	1647E+00	1956E+01	1623E+00
1928E+01	2000E+01	1579E+00		
5000E+00	5496E+00	6246E-01	5998E+00	6007E-01
6491E+00	6993E+00	5848E-01	7527E+00	5848E-01
8029E+00	8535E+00	6166E-01	8690E+00	6405E-01
9383E+00	9763E-01	7240E-01	9247E+00	7797E-01
9773E+00	9996E+00	7906E-01	9665E+00	1109E+00
1012E+01	1016E+01	1533E+00	1005E+01	1802E+00
1031E+01	1037E+01	2200E+00	1023E+01	2415E+00
1047E+01	1049E+01	2956E+00	1044E+01	3381E+00
1055E+01	1061E+01	3755E+00	1052E+01	3863E+00
1074E+01	1084E+01	4042E+00	1066E+01	4002E+00
1112E+01	1123E+01	4145E+00	1098E+01	4141E+00
1141E+01	1146E+01	4034E+00	1134E+01	3914E+00
1158E+01	1164E+01	3700E+00	1154E+01	3537E+00
1175E+01	1179E+01	3167E+00	1169E+01	2852E+00
1194E+01	1205E+01	2435E+00	1187E+01	2272E+00
1237E+01	1258E+01	2069E+00	1215E+01	1985E+00
1331E+01	1379E+01	1862E+00	1234E+01	1794E+00
1401E+01	1534E+01	1639E+00	1431E+01	1695E+00
1481E+01	1671E+00	1639E+00	1599E+01	1607E+00
1644E+01	1567E+00	1699E+01	1755E+01	1524E+00
1802E+01	1512E+00	1850E+01	1900E+01	1452E+00
1933E+01	1404E+00	2000E+01		
5000E+00	5429E+00	9215E-01	5756E+00	8692E-01
5587E+00	6298E+00	9772E-01	6490E+00	9592E-01
6801E+00	7016E+00	9500E-01	7176E+00	7150E-01
7357E+00	7495E+00	3257E-01	7623E+00	1033E-01
7734E+00	7862E+00	3496E-01	7986E+00	6117E-01
8045E+00	8237E+00	1160E+00	8396E+00	1557E+00
8652E+00	8867E+00	2677E+00	9003E+00	3351E+00
9258E+00	9419E+00	4147E+00	9577E+00	4560E+00

725E+00	-402E+00	-132E+00	944E+00	-515E+00
100E+01	1016E+01	-566E+00	1028E+01	-5839E+00
1041E+01	1047E+01	-5927E+00	1100E+01	-5982E+00
1076E+01	1092E+01	-5831E+00	1102E+01	-5760E+00
1121E+01	1142E+01	-5291E+00	1172E+01	-4886E+00
1193E+01	1216E+01	-4231E+00	1249E+01	-3925E+00
1276E+01	1311E+01	-3281E+00	1349E+01	-3059E+00
1386E+01	1416E+01	-2645E+00	1454E+01	-2495E+00
1496E+01	1541E+01	-2243E+00	1585E+01	-2169E+00
1635E+01	1650E+01	-2042E+00	1700E+01	-2042E+00
1753E+01	1833E+01	-2010E+00	1899E+01	-1954E+00
1951E+01	2000E+01	-1970E+00		
306	54	18		
500E+00	5381E+00	7627E-01	5844E+00	8024E-01
6107E+00	6474E+00	7865E-01	6773E+00	776E-01
6961E+00	7335E+00	5402E-01	7631E+00	5463E-01
779E+00	7978E+00	-1986E-01	8253E+00	-5799E-01
8568E+00	8751E+00	-1365E+00	8971E+00	-1724E+00
9083E+00	9254E+00	-2336E+00	9406E+00	-2661E+00
9565E+00	9705E+00	-321E+00	9817E+00	-3535E+00
9952E+00	1006E+01	-3940E+00	1020E+01	-4107E+00
1034E+01	1042E+01	-4278E+00	1053E+01	-4314E+00
1069E+01	1085E+01	-4179E+00	1095E+01	-4091E+00
1098E+01	1118E+01	-3766E+00	1127E+01	-3646E+00
1137E+01	1155E+01	-3281E+00	1179E+01	-3011E+00
1202E+01	1225E+01	-2661E+00	1255E+01	-2471E+00
1284E+01	1307E+01	-217E+00	1344E+01	-2018E+00
1383E+01	1427E+01	-1700E+00	1470E+01	-1573E+00
1513E+01	1554E+01	-1454E+00	1571E+01	-1406E+00
1639E+01	1702E+01	-1343E+00	1753E+01	-1327E+00
1830E+01	1907E+01	-1311E+00	2000E+01	-1300E+00
306	45	15		
500E+00	5449E+00	6435E-01	5792E+00	6673E-01
6115E+00	6470E+00	6594E-01	6893E+00	6276E-01
7260E+00	7491E+00	4131E-01	7655E+00	3019E-01
7815E+00	7986E+00	7150E-02	8157E+00	-9533E-02
8377E+00	8668E+00	-5561E-01	8943E+00	-8559E-01
9134E+00	9394E+00	-1358E+00	9577E+00	-1613E+00
9824E+00	1006E+01	-2081E+00	1017E+01	-2177E+00
1033E+01	1044E+01	-2328E+00	1059E+01	-2344E+00
1077E+01	1093E+01	-2258E+00	1100E+01	-2209E+00
1130E+01	1146E+01	-1772E+00	1162E+01	-1644E+00
1175E+01	1237E+01	-1176E+00	1256E+01	-1112E+00
1273E+01	1306E+01	-9613E-01	1349E+01	-8739E-01
1397E+01	1445E+01	-7309E-01	1500E+01	-6832E-01
1558E+01	1610E+01	-6197E-01	1702E+01	-6276E-01
1803E+01	1901E+01	-5720E-01	2000E+01	-5799E-01
306	32	11		
500E+00	5501E+00	3178E-02	5983E+00	2383E-02
6478E+00	6992E+00	-3972E-02	7423E+00	-1192E-01
7667E+00	8101E+00	-2066E-01	8596E+00	-3257E-01
8507E+00	9222E+00	-4926E-01	9521E+00	-5799E-01
9733E+00	1005E+01	-7468E-01	1030E+01	-7706E-01
1050E+01	1075E+01	-7547E-01	1099E+01	-7229E-01
1134E+01	1156E+01	-5561E-01	1188E+01	-4926E-01
1213E+01	1248E+01	-4211E-01	1301E+01	-3972E-01
1339E+01	1400E+01	-3734E-01	1499E+01	-3734E-01
1601E+01	1701E+01	-3734E-01	1805E+01	-3734E-01
1901E+01	2000E+01	-3734E-01		
307	47	16		
500E+00	5309E+00	6514E-01	5616E+00	6991E-01
5939E+00	6210E+00	7071E-01	6477E+00	7971E-01
6772E+00	7011E+00	6514E-01	7262E+00	5561E-01
7477E+00	7704E+00	2622E-01	7991E+00	3972E-02
8147E+00	8390E+00	-2939E-01	8533E+00	-4687E-01
8820E+00	9000E+00	-2939E-01	9195E+00	-1208E-01

3402E+00	-1.70E+00	9601E+00	-1755E+00	916E+00	-1954E+00
1014E+01	-2161E+00	1039E+01	-2325E+00	1051E+01	-2367E+00
1056E+01	-2375E+00	1077E+01	-2352E+00	1093E+01	-2272E+00
1100E+01	-2244E+00	1130E+01	-1970E+00	1146E+01	-1027E+00
1158E+01	-2700E+00	1169E+01	-1589E+00	1230E+01	-1200E+00
1271E+01	-3104E+00	1306E+01	-1009E+00	131E+01	-954E+01
1373E+01	-3136E+01	1430E+01	-8262E+01	1495E+01	-7229E+01
1500E+01	-7150E+01	1591E+01	-6673E+01	1652E+01	-6276E+01
1703E+01	-3958E+01	1801E+01	-5879E+01	1853E+01	-5799E+01
1902E+01	-5799E+01	2000E+01	-5799E+01		
307	2	33	11		
5800E+00	0	5990E+00	-7944E+03	6517E+00	-7944E+03
7011E+00	-2303E+02	7425E+00	-5561E+02	7736E+00	-9533E+02
8043E+00	-1740E+01	8414E+00	-2701E+01	8633E+00	-3019E+01
8872E+00	-3972E+01	9255E+00	-5482E+01	9601E+00	-6753E+01
9528E+00	-7065E+01	1026E+01	-7865E+01	1055E+01	-7944E+01
1077E+01	-7065E+01	1100E+01	-7786E+01	1137E+01	-6832E+01
1154E+01	-6830E+01	1197E+01	-5482E+01	1229E+01	-4767E+01
1259E+01	-5228E+01	1289E+01	-4131E+01	131E+01	-3972E+01
1349E+01	-3972E+01	1398E+01	-4052E+01	1450E+01	-4052E+01
1500E+01	-4052E+01	1599E+01	-4052E+01	1701E+01	-4052E+01
1801E+01	-4052E+01	1900E+01	-4052E+01	2000E+01	-4052E+01
307	3	41	14		
5000E+00	-1239E+00	5496E+00	-1255E+00	5783E+00	-1255E+00
6500E+00	-1239E+00	6509E+00	-1239E+00	6756E+00	-1231E+00
6967E+00	-1184E+00	7090E+00	-1160E+00	7266E+00	-1096E+00
7497E+00	-1009E+00	7900E+00	-7468E+01	8143E+00	-5720E+01
8346E+00	-8211E+01	8685E+00	-1430E+01	8948E+00	-7150E+02
9267E+00	-3734E+01	9605E+00	-6753E+01	9853E+00	-8262E+01
1017E+01	-1001E+00	1042E+01	-1089E+00	1063E+01	-1144E+00
1099E+01	-1144E+00	1139E+01	-1124E+00	1168E+01	-1080E+00
1210E+01	-1017E+00	1248E+01	-9374E+01	1299E+01	-8262E+01
1348E+01	-6912E+01	1387E+01	-5879E+01	1426E+01	-4687E+01
1463E+01	-3734E+01	1511E+01	-2060E+01	1555E+01	-2066E+01
1607E+01	-1271E+01	1634E+01	-6355E+02	1704E+01	-7944E+03
1775E+01	-6355E+02	1814E+01	-1112E+01	1851E+01	-1430E+01
1900E+01	-1827E+01	2000E+01	-1827E+01		
307	4	46	16		
5000E+00	-2447E+00	5500E+00	-2463E+00	6014E+00	-2455E+00
6353E+00	-2439E+00	6692E+00	-2352E+00	7043E+00	-2256E+00
7794E+00	-2066E+00	7545E+00	-1827E+00	7680E+00	-1621E+00
8322E+00	-1422E+00	8234E+00	-8262E+01	8434E+00	-4846E+01
8657E+00	-7944E+02	8836E+00	-2701E+01	9115E+00	-8262E+01
9426E+00	-1438E+00	9570E+00	-1716E+00	9757E+00	-2050E+00
9916E+00	-2296E+00	1004E+01	-2487E+00	1016E+01	-2606E+00
1020E+01	-2693E+00	1030E+01	-2741E+00	1055E+01	-2773E+00
1075E+01	-2765E+00	1098E+01	-2677E+00	1143E+01	-2423E+00
1176E+01	-2216E+00	1202E+01	-2050E+00	1220E+01	-1851E+00
1250E+01	-1700E+00	1279E+01	-1486E+00	1319E+01	-1287E+00
1355E+01	-1112E+00	1394E+01	-9374E+01	1441E+01	-8024E+01
1497E+01	-6356E+01	1537E+01	-5243E+01	1596E+01	-4052E+01
1650E+01	-3257E+01	1709E+01	-2622E+01	1773E+01	-1748E+01
1836E+01	-1271E+01	1891E+01	-3972E+02	1953E+01	-2363E+02
2000E+01	1	21	7		
4954E+01	-1984E+00	5840E+01	-1925E+00	6717E+01	-1885E+00
7435E+01	-1825E+00	8049E+01	-1726E+00	8959E+01	-1488E+00
9597E+01	-1409E+00	1017E+00	-1310E+00	1076E+00	-1131E+00
1155E+00	-9127E+01	1217E+00	-6548E+01	1261E+00	-4563E+01
1491E+00	-2770E+01	1317E+00	-1786E+01	1343E+00	-5952E+02
1822E+00	0	1538E+00	0	1612E+00	0
1822E+00	0	2002E+00	0	1000E+01	0
308	2	33	11		
4954E+01	-1613E+01	6055E+01	-1603E+01	6869E+01	-1587E+01
7770E+01	-1585E+01	8815E+01	-1565E+01	9613E+01	-1514E+01
1017E+00	-4744E+01	1099E+00	-1406E+01	1159E+01	-1324E+01

1217E+00	1242E+01	1271E+00	1165E+01	1324E+00	1035E+01
1367E+00	5940E+00	1404E+00	9187E+00	1460E+00	8175E+00
1502E+00	7262E+00	1534E+00	6409E+00	1578E+00	5357E+00
1617E+00	4664E+00	1664E+00	3611E+00	1694E+00	2837E+00
1712E+00	2341E+00	1745E+00	1885E+00	1772E+00	1429E+00
1804E+00	5921E-01	1838E+00	6151E-01	1871E+00	3571E-01
1889E+00	1984E-01	1910E+00	1786E-01	1938E+00	0.
1978E+00	0.	2002E+00	0.	1000E+01	0.
308	3	29	10	0.	0.
4986E-01	6627E+00	5927E-01	6607E+00	6785E-01	6587E+00
7252E-01	6607E+00	7802E-01	6567E+00	8377E-01	6448E+00
9095E-01	6290E+00	9725E-01	6052E+00	1025E+00	5453E+00
1075E+00	5536E+00	1118E+00	5357E+00	1181E+00	4901E+00
1223E+00	4583E+00	1272E+00	4167E+00	1320E+00	3690E+00
1369E+00	3115E+00	1409E+00	2639E+00	1458E+00	1885E+00
1481E+00	1508E+00	1509E+00	1071E+00	1536E+00	7738E-01
1564E+00	4563E-01	1588E+00	2187E-01	1606E+00	9921E-02
1615E+00	0.	1703E+00	0.	1809E+00	0.
2003E+00	0.	1000E+01	0.	0.	0.
308	4	25	5	0.	0.
4946E-01	3571E+00	5967E-01	3571E+00	6733E-01	3512E+00
7411E-01	3413E+00	8145E-01	3353E+00	8831E-01	3353E+00
9438E-01	2095E+00	1024E+00	2817E+00	1094E+00	2579E+00
1165E+00	2282E+00	1211E+00	1905E+00	1258E+00	1647E+00
1265E+00	1647E+00	1279E+00	1290E+00	1330E+00	954E-01
1358E+00	8532E-01	1379E+00	4960E-01	1406E+00	2381E-01
1422E+00	1587E-01	1436E+00	0.	1540E+00	0.
1649E+00	0.	1801E+00	0.	2003E+00	0.
1000E+01	0.	0.	0.	0.	0.
309	1	44	15	0.	0.
5004E+00	3181E-03	5466E+00	3181E-03	5980E+00	3181E-03
6978E+00	3181E-03	7988E+00	3181E-03	8514E+00	3181E-03
8805E+00	3181E-03	8976E+00	3181E-03	9112E+00	3181E-03
9207E+00	3519E-03	9398E+00	4016E-03	9546E+00	4632E-03
9709E+00	5189E-03	9876E+00	5805E-03	1005E+01	6561E-03
1029E+01	7276E-03	1056E+01	8171E-03	1078E+01	8787E-03
1097E+01	9245E-03	1117E+01	9583E-03	1142E+01	9920E-03
1159E+01	1010E-02	1171E+01	1006E-02	1194E+01	1022E-02
1223E+01	1806E-02	1257E+01	9801E-03	1294E+01	9622E-03
1330E+01	9125E-03	1378E+01	8211E-03	1420E+01	7256E-03
1453E+01	6561E-03	1508E+01	5209E-03	1542E+01	4414E-03
1578E+01	3797E-03	1605E+01	3308E-03	1643E+01	2863E-03
1685E+01	2565E-03	1742E+01	2087E-03	1773E+01	1789E-03
1828E+01	1531E-03	1859E+01	1431E-03	1906E+01	1252E-03
1958E+01	1173E-03	2000E+01	1173E-03	0.	0.
310	1	55	19	0.	0.
5080E+00	7281E-02	5474E+00	7341E-02	5997E+00	7361E-02
6487E+00	7401E-02	6786E+00	7460E-02	7081E+00	7460E-02
7364E+00	7560E-02	7648E+00	7619E-02	7811E+00	7658E-02
8026E+00	7798E-02	8278E+00	7917E-02	8561E+00	8135E-02
8868E+00	8333E-02	9135E+00	8671E-02	9350E+00	8909E-02
9510E+00	9067E-02	9697E+00	9444E-02	9888E+00	9722E-02
1009E+01	1082E-01	1017E+01	1010E-01	1025E+01	1022E-01
1038E+01	1830E-01	1050E+01	1038E-01	1065E+01	1032E-01
1078E+01	1920E-01	1091E+01	1010E-01	1103E+01	9821E-02
1120E+01	9563E-02	1130E+01	9266E-02	1146E+01	8909E-02
1165E+01	8811E-02	1172E+01	8373E-02	1187E+01	8175E-02
1198E+01	8056E-02	1210E+01	7857E-02	1224E+01	7659E-02
1242E+01	7619E-02	1259E+01	7440E-02	1286E+01	7321E-02
1308E+01	7163E-02	1341E+01	7103E-02	1366E+01	6905E-02
1409E+01	6786E-02	1439E+01	6687E-02	1503E+01	6488E-02
1557E+01	6329E-02	1611E+01	6290E-02	1672E+01	6131E-02
1720E+01	6052E-02	1768E+01	5913E-02	1814E+01	5744E-02
1868E+01	5754E-02	1917E+01	5675E-02	1963E+01	5635E-02
2000E+01	5635E-02	0.	0.	0.	0.
310	2	57	19	0.	0.

.500E+00	-.117E-03	.585E+01	-.117E-03	.557E+00	-.121E-03
.698E+00	-.115E-03	.719E+00	-.115E-03	.739E+00	-.103E-03
.761E+00	-.115E-04	.786E+00	-.115E-04	.802E+00	-.795E-05
.815E+00	.278E-04	.845E+00	.119E-03	.868E+00	.218E-03
.881E+00	.272E-03	.908E+00	.369E-03	.927E+00	.516E-03
.950E+00	.660E-03	.975E+00	.797E-03	.993E+00	.928E-03
.100E+01	.598E-03	.101E+01	.107E-02	.103E+01	.114E-02
.105E+01	.117E-02	.106E+01	.118E-02	.106E+01	.118E-02
.108E+01	.118E-02	.109E+01	.116E-02	.110E+01	.112E-02
.111E+01	.105E-02	.112E+01	.101E-02	.113E+01	.928E-03
.114E+01	.864E-03	.115E+01	.749E-03	.116E+01	.636E-03
.117E+01	.548E-03	.118E+01	.473E-03	.119E+01	.407E-03
.120E+01	.341E-03	.122E+01	.256E-03	.123E+01	.169E-03
.125E+01	.109E-03	.128E+01	.318E-04	.129E+01	-.238E-04
.132E+01	-.674E-04	.134E+01	-.125E-03	.136E+01	-.171E-03
.134E+01	-.262E-03	.146E+01	-.223E-03	.149E+01	-.304E-03
.152E+01	.324E-03	.157E+01	-.338E-03	.162E+01	-.355E-03
.167E+01	-.369E-03	.174E+01	-.379E-03	.182E+01	-.391E-03
.190E+01	-.403E-03	.196E+01	-.413E-03	.209E+01	-.417E-03
310	2	60	20	564E+00	.339E-02
.500E+00	.319E-02	.536E+00	.339E-02	.642E+00	.335E-02
.592E+00	.339E-02	.616E+00	.337E-02	.721E+00	.263E-02
.671E+00	.317E-02	.698E+00	.289E-02	.773E+00	.144E-02
.739E+00	.226E-02	.761E+00	.186E-02	.815E+00	-.158E-03
.787E+00	.101E-02	.801E+00	.574E-03	.861E+00	-.256E-02
.822E+00	-.912E-03	.838E+00	-.178E-02	.901E+00	-.515E-02
.874E+00	-.321E-02	.887E+00	-.436E-02	.931E+00	-.619E-02
.915E+00	-.573E-02	.925E+00	-.601E-02	.966E+00	-.625E-02
.978E+00	-.625E-02	.998E+00	-.634E-02	.100E+01	-.531E-02
.978E+00	-.663E-02	.989E+00	-.571E-02	.105E+01	-.281E-02
.102E+01	-.436E-02	.103E+01	-.365E-02	.109E+01	-.436E-03
.107E+01	-.210E-02	.108E+01	-.123E-02	.112E+01	.136E-02
.111E+01	.346E-03	.112E+01	.372E-03	.115E+01	.236E-02
.113E+01	.178E-02	.114E+01	.210E-02	.120E+01	.337E-02
.116E+01	.267E-02	.118E+01	.303E-02	.127E+01	.388E-02
.122E+01	.365E-02	.125E+01	.381E-02	.136E+01	.436E-02
.130E+01	.410E-02	.134E+01	.424E-02	.152E+01	.448E-02
.140E+01	.440E-02	.146E+01	.438E-02	.180E+01	.444E-02
.160E+01	.442E-02	.169E+01	.446E-02	.200E+01	.416E-02
.190E+01	.424E-02	.196E+01	.420E-02	.701E+00	-.732E-03
311	1	16	6	.996E+00	-.237E-03
.500E+00	-.112E-02	.601E+00	-.930E-03	.130E+01	.178E-03
.600E+00	-.534E-03	.901E+00	-.455E-03	.159E+01	.811E-03
.110E+01	-.792E-04	.120E+01	.594E-04	.159E+01	.126E-02
.139E+01	.376E-03	.150E+01	.613E-03	.189E+01	
.170E+01	.970E-03	.180E+01	.106E-02		
.200E+01	.142E-02				
313	1	44	15	.649E+00	.216E-01
.500E+00	.218E-01	.598E+00	.218E-01	.800E+00	.162E-01
.699E+00	.200E-01	.747E+00	.186E-01	.949E+00	.297E-02
.851E+00	.127E-01	.896E+00	.833E-02	.1055E+01	-.131E-01
.999E+00	-.377E-02	.103E+01	-.982E-02	.1115E+01	-.261E-01
.107E+01	-.172E-01	.109E+01	.216E-01	.1160E+01	-.337E-01
.113E+01	-.296E-01	.114E+01	-.321E-01	.1200E+01	-.382E-01
.117E+01	-.359E-01	.118E+01	-.367E-01	.1254E+01	-.329E-01
.121E+01	-.382E-01	.123E+01	-.365E-01	.1298E+01	-.236E-01
.126E+01	-.301E-01	.128E+01	-.269E-01	.1352E+01	-.134E-01
.130E+01	-.216E-01	.132E+01	-.176E-01	.1422E+01	-.436E-02
.137E+01	-.992E-02	.140E+01	-.778E-02	.1550E+01	.555E-02
.146E+01	-.198E-03	.150E+01	.297E-02	.1698E+01	.109E-01
.159E+01	.793E-02	.163E+01	.932E-02	.187E+01	.129E-01
.174E+01	.179E-01	.179E+01	.117E-01		
.194E+01	.129E-01	.200E+01	.127E-01		
315	1	23	8	.498E-02	0.
.500E+00	-.597E-03	.493E-01	-.115E-03	.236E+00	-.278E-02
.151E+01		.200E+01			

2702E+00	-3484E-02	3036E+00	-0574E-02	3484E+00	-3765E-02
3932E+00	-1355E-01	4389E+00	-1613E-01	4910E+00	-2371E-01
5277E+00	-2849E-01	5643E+00	-3426E-01	5977E+00	-3845E-01
6462E+00	-4641E-01	6909E+00	-5319E-01	7473E+00	-6295E-01
7495E+00	-6952E-01	8420E+00	-7869E-01	8930E+00	-8805E-01
9435E+00	-5701E-01	1000E+01	-1070E+00		
312		35			
1531E+00	-1269E-02	1742E+00	-1142E-02	2200E+00	-7745E-03
2562E+00	-4711E-03	2828E+00	-1677E-03	3051E+00	-1038E-03
3226E+00	3513E-03	3345E+00	-5828E-03	3425E+00	-8383E-03
3516E+00	1102E-02	3604E+00	1309E-02	3703E+00	-1501E-02
3831E+00	1717E-02	3954E+00	1900E-02	4085E+00	-2044E-02
4204E+00	2076E-02	4399E+00	2101E-02	4602E+00	-2100E-02
4702E+00	2028E-02	4813E+00	1972E-02	4905E+00	-1960E-02
4584E+00	1764E-02	5107E+00	1573E-02	5270E+00	-1309E-02
5410E+00	1022E-02	5605E+00	5669E-03	5704E+00	-3194E-03
5871E+00	-6387E-04	6006E+00	-3433E-03	6114E+00	-5869E-03
6233E+00	-8436E-03	6392E+00	-1094E-02	6571E+00	-1437E-02
6706E+00	-1695E-02	6693E+00	-2012E-02		
314		32			
1943E+00	-3452E-01	2189E+00	-3313E-01	2460E+00	-3135E-01
2763E+00	-2817E-01	3045E+00	-2341E-01	3165E+00	-2113E-01
3308E+00	-1746E-01	3412E+00	-1329E-01	3531E+00	-7143E-02
3646E+00	-1389E-02	3762E+00	-3770E-02	3834E+00	-7540E-02
3949E+00	1151E-01	4120E+00	1509E-01	4232E+00	-1706E-01
4335E+00	1766E-01	4490E+00	1865E-01	4686E+00	-1786E-01
4940E+00	1627E-01	5111E+00	1310E-01	5251E+00	-1171E-01
5414E+00	8333E-02	5581E+00	5556E-02	5800E+00	-1190E-02
5979E+00	-2778E-02	6206E+00	-5357E-02	5409E+00	-7341E-02
6752E+00	-1032E-01	7094E+00	-1230E-01	7488E+00	-1446E-01
7751E+00	-1545E-01	7970E+00	-1567E-01		
312		32			
1523E+00	-1452E-02	1730E+00	-1605E-02	1917E+00	-1533E-02
2247E+00	-1277E-02	2589E+00	-9341E-03	2852E+00	-6707E-03
3130E+00	-3593E-03	3298E+00	-1038E-03	3409E+00	-8782E-04
3576E+00	4391E-03	3731E+00	6946E-03	3850E+00	-9022E-03
3942E+00	1101E-02	4029E+00	1253E-02	4101E+00	-1333E-02
4196E+00	1429E-02	4260E+00	1469E-02	4356E+00	-1477E-02
4503E+00	1461E-02	4618E+00	1421E-02	4745E+00	-1325E-02
4897E+00	1230E-02	5032E+00	1126E-02	5135E+00	-9661E-03
5294E+00	7904E-03	5469E+00	5589E-03	5621E+00	-3333E-03
6002E+00	-1996E-03	6241E+00	-5030E-03	6547E+00	-8762E-03
6746E+00	-1054E-02	6549E+00	-1261E-02		
314		36			
1979E+00	9325E-02	2239E+00	8929E-02	2532E+00	7738E-02
2703E+00	6548E-02	3085E+00	5357E-02	3372E+00	3373E-02
3607E+00	1587E-02	3802E+00	1984E-03	3905E+00	-9321E-03
3997E+00	-2770E-02	4116E+00	-5754E-02	4287E+00	-7738E-02
4439E+00	-1032E-01	4630E+00	-1190E-01	4853E+00	-1270E-01
5036E+00	1230E-01	5147E+00	-1891E-01	5318E+00	-9127E-02
5490E+00	-7143E-02	5577E+00	-4762E-02	5649E+00	-2579E-02
5897E+00	-5952E-03	5776E+00	3173E-02	5832E+00	6944E-02
6060E+00	1012E-01	5904E+00	1389E-01	5947E+00	1687E-01
6207E+00	2044E-01	6135E+00	2381E-01	6270E+00	2679E-01
6409E+00	2857E-01	6592E+00	3135E-01	6787E+00	3254E-01
6994E+00	3333E-01	7321E+00	3373E-01	7615E+00	-3373E-01
7795E+00	3294E-01	8021E+00	3234E-01		
317		26			
5000E+00	-1310E-01	5999E+00	-1310E-01	7002E+00	-1310E-01
5910E+00	-1310E-01	6798E+00	-1310E-01	9196E+00	-1306E-01
9566E+00	-1290E-01	9861E+00	-1270E-01	1020E+01	-1243E-01
1060E+01	-1206E-01	1094E+01	-1171E-01	1142E+01	-1127E-01
1109E+01	-1087E-01	1237E+01	-1063E-01	1299E+01	-9841E-02
1383E+01	-9325E-02	1454E+01	-8770E-02	1513E+01	-8452E-02
1574E+01	-8214E-02	1633E+01	-8016E-02	1701E+01	-7659E-02
1755E+01	-7421E-02	1807E+01	-7141E-02	1947E+01	-7141E-02

.1557E+01	2	2300E+01	11	5641E+00	-4274E-01
.500E+00	317	.5350E+00	11	.6664E+00	-4619E-01
.595E+00		.6350E+00		.8018E+00	-5167E-01
.7038E+00		.4762E-01		.9025E+00	-5667E-01
.8420E+00		.7538E+00		.9988E+00	-6040E-01
.9319E+00		.9701E+00		.1096E+01	-6294E-01
.1025E+01		.1061E+01		.1253E+01	-6421E-01
.1146E+01		.1201E+01		.1401E+01	-6413E-01
.1303E+01		.1394E+01		.1604E+01	-6198E-01
.1453E+01		.1558E+01		.1752E+01	-5968E-01
.1652E+01		.1708E+01		.2000E+01	-5590E-01
.1813E+01		.1861E+01	11	.5959E-01	.912E-02
.3049E-01	310	.3494E-01	31	.8925E-01	.8526E-02
.6957E-01		.7962E-01		.1112E+00	.7649E-02
.9757E-01		.1037E+00		.1345E+00	.6295E-02
.1205E+00		.1272E+00		.1564E+00	.4243E-02
.1418E+00		.1471E+00		.1702E+00	.2351E-02
.1631E+00		.1671E+00		.1779E+00	.1275E-02
.1734E+00		.1757E+00		.1828E+00	.7570E-03
.1795E+00		.1809E+00		.1892E+00	.3187E-03
.1848E+00		.1872E+00		.2001E+00	0.
.1915E+00		.1938E+00			
.1000E+01	0.				
.325E-01	2	.4826E-01	24	.5584E-01	.5637E-02
.626E-01		.7323E-01	8	.8345E-01	.5028E-02
.9031E-01		.9797E-01		.1039E+00	.4124E-02
.111E+00		.1186E+00		.1238E+00	.2769E-02
.1288E+00		.1353E+00		.1395E+00	.1275E-02
.1424E+00		.1448E+00		.1475E+00	.5378E-03
.1508E+00		.1525E+00		.1552E+00	0.
.1598E+00	0.	.2001E+00	0.	.1000E+01	0.
.319	319		10	.9260E+02	.3860E-01
.8360E+02		.8726E+02		.1029E+03	.500E-01
.9697E+02		.1006E+03		.1110E+03	.5160E-01
.1054E+03		.1080E+03		.1256E+03	.3600E-01
.1153E+03		.1213E+03		.1379E+03	.1442E-01
.1296E+03		.1342E+03		.1432E+03	.3800E-02
.1401E+03		.1416E+03		.1491E+03	.3400E-02
.1449E+03		.1475E+03		.1664E+03	.1820E-01
.1521E+03		.1538E+03		.1866E+03	.3140E-01
.1702E+03		.1783E+03			
.1945E+03		.2000E+03		.9252E+02	.500E-01
.319	319		8	.1010E+03	.6100E-01
.8320E+02		.8885E+02		.111E+03	.5320E-01
.9530E+02		.9841E+02		.1223E+03	.3740E-01
.1040E+03		.1080E+03		.1318E+03	.1900E-01
.1143E+03		.1183E+03		.1464E+03	.2400E-02
.1264E+03		.1291E+03		.1749E+03	.1820E-01
.1344E+03		.1392E+03		.1995E+03	.2960E-01
.1521E+03		.1608E+03			
.1521E+03		.1608E+03		.3716E+02	.4263E-01
.1800E+03		.1907E+03		.9226E+02	.6195E-01
.320	320		14	.9753E+02	.7420E-01
.8333E+02		.8549E+02		.1042E+03	.8048E-01
.9847E+02		.9075E+02		.1118E+03	.7490E-01
.5246E+02		.9514E+02		.1185E+03	.6056E-01
.1022E+03		.1029E+03		.1220E+03	.5061E-01
.1069E+03		.1094E+03		.1253E+03	.4163E-01
.1140E+03		.1164E+03		.1314E+03	.3207E-01
.1201E+03		.1212E+03		.1411E+03	.1922E-01
.1230E+03		.1241E+03		.1540E+03	.7371E-02
.1274E+03		.1290E+03			
.1345E+03		.1376E+03			
.1455E+03		.1614E-01			



1.86E+03	4202E-02	1024E+03	1594E-01	1675E+03	-1354E-02
1.73E+03	-617E-02	1798E+03	-9562E-02	1860E+03	-1275E-01
1.933E+03	-1633E-01	2001E+03	-1972E-01		
320	2	40	14		
3349E+02	2311E-01	8684E+02	3904E-01	8860E+02	462E-01
3019E+02	5279E-01	9163E+02	5976E-01	9370E+02	6474E-01
9553E+02	7012E-01	9689E+02	7311E-01	9848E+02	7649E-01
1006E+03	7809E-01	1022E+03	7869E-01	1041E+03	8028E-01
1665E+03	7988E-01	1090E+03	7809E-01	1120E+03	7516E-01
1150E+03	7072E-01	1176E+03	8633E-01	1208E+03	6036E-01
1232E+03	5398E-01	1269E+03	4602E-01	1297E+03	3904E-01
1313E+03	3426E-01	1325E+03	3187E-01	1329E+03	2849E-01
1339E+03	2798E-01	1347E+03	2510E-01	1361E+03	2251E-01
1379E+03	1892E-01	1407E+03	1534E-01	1436E+03	1195E-01
1455E+03	8964E-02	1509E+03	5179E-02	1537E+03	1992E-02
1667E+03	-731E-02	1714E+03	-1036E-01	1778E+03	-135E-01
1825E+03	-1693E-01	1903E+03	-2012E-01	1946E+03	-2171E-01
2002E+03	-2430E-01				
321	1	37	13		
8312E+02	-1389E-02	8615E+02	4333E-02	9933E+02	1806E-01
9299E+02	2778E-01	9761E+02	3968E-01	9992E+02	445E-01
1019E+03	4762E-01	1041E+03	5099E-01	1059E+03	5298E-01
1076E+03	5456E-01	1107E+03	5536E-01	1131E+03	5478E-01
1151E+03	5258E-01	1178E+03	4901E-01	1194E+03	4583E-01
1209E+03	4167E-01	1222E+03	3889E-01	1229E+03	3393E-01
1244E+03	2877E-01	1284E+03	2882E-01	1273E+03	1865E-01
1285E+03	1647E-01	1384E+03	1319E-01	1319E+03	9722E-02
1338E+03	8135E-02	1352E+03	5159E-02	1417E+03	1190E-02
1446E+03	-2976E-02	1475E+03	-5357E-02	1511E+03	-778E-02
1537E+03	-9127E-02	1667E+03	-1607E-01	1734E+03	-1845E-01
1801E+03	-2083E-01	1878E+03	-2282E-01	1933E+03	-2421E-01
1599E+03	-2560E-01				
321	2	41	14		
7755E+02	-4008E-01	8392E+02	-3651E-01	9975E+02	-3313E-01
9674E+02	-2778E-01	1010E+03	-2321E-01	1036E+03	-2044E-01
1059E+03	-1647E-01	1077E+03	-1310E-01	1094E+03	-9325E-02
1106E+03	-5357E-02	1122E+03	-1190E-02	1127E+03	3571E-02
1140E+03	8338E-02	1153E+03	1250E-01	1167E+03	1607E-01
1186E+03	1905E-01	1193E+03	2163E-01	1205E+03	2282E-01
1226E+03	2401E-01	1249E+03	2321E-01	1271E+03	2143E-01
1304E+03	1667E-01	1326E+03	1310E-01	1358E+03	750E-02
1384E+03	2976E-02	1409E+03	-1389E-02	1432E+03	-4563E-02
1452E+03	-7341E-02	1473E+03	-1052E-01	1502E+03	-1250E-01
1519E+03	-1607E-01	1564E+03	-2103E-01	1610E+03	-2560E-01
1651E+03	-2837E-01	1689E+03	-3155E-01	1748E+03	-361E-01
1799E+03	-3909E-01	1845E+03	-4206E-01	1892E+03	-4544E-01
1952E+03	-4742E-01	1999E+03	-5119E-01		
322	1	26	9		
9196E+02	-4028E-01	9611E+02	-3571E-01	9074E+02	-3234E-01
9561E+02	-2796E-01	9984E+02	-2421E-01	1044E+03	-1964E-01
1081E+03	-1508E-01	1117E+03	-1032E-01	1132E+03	-7937E-02
1166E+03	-1984E-02	1176E+03	7937E-03	1193E+03	2579E-02
1213E+03	3175E-02	1231E+03	4365E-02	1268E+03	4365E-02
1298E+03	2778E-02	1360E+03	-1190E-02	1408E+03	-5754E-02
1459E+03	-9524E-02	1536E+03	-1627E-01	1581E+03	-2004E-01
1573E+03	-2718E-01	1743E+03	-3254E-01	1824E+03	-3865E-01
1500E+03	-4444E-01	2006E+03	-5198E-01		
323	1	25	9		
1180E+03	4351E+00	1511E+00	4542E+00	2004E+00	4908E+00
1332E+00	5235E+00	2579E+00	5530E+00	2746E+00	5753E+00
2894E+00	6040E+00	3029E+00	5454E+00	3252E+00	7168E+00
3396E+00	7729E+00	3551E+00	8247E+00	3754E+00	8908E+00
4089E+00	9737E+00	4328E+00	1037E+01	4548E+00	1075E+01
4799E+00	1117E+01	4974E+00	1137E+01	5201E+00	1168E+01
5005E+00	1180E+01	5735E+00	1197E+01	6002E+00	1277E+01
6550E+00	1317E+01	6043E+00	1222E+01	7294E+00	1255E+01

7585E+00	1225E+01	20	10	6090E+00	6900E+01	6090E+00
325	1	5904E-01	6090E+00	6900E+01	6090E+00	
5020E-01	6050E+00	9004E-01	6090E+00	9992E-01	6129E+00	
7504E-01	6090E+00	6129E+00	6090E+00	1154E+00	6348E+00	
1057E+00	6567E+00	1245E+00	6090E+00	1275E+00	7085E+00	
1501E+00	7303E+00	1326E+00	7642E+00	1351E+00	7940E+00	
1303E+00	6398E+00	1397E+00	2577E+00	1419E+00	8995E+00	
1379E+00	5274E+00	1463E+00	9612E+00	1488E+00	9791E+00	
1438E+00	1003E+01	1602E+00	1085E+01	1704E+00	1007E+01	
1517E+00	1003E+01	1901E+00	1007E+01	2000E+00	1007E+01	
1522E+00	1801E+01	20	10	6900E+01	6900E+01	
1000E+01	4915E+00	5992E-01	4915E+00	6900E+01	6900E+01	
325	2	3964E-01	5015E+00	6900E+01	6900E+01	
4996E-01	4915E+00	1100E+00	5015E+00	1261E+00	5751E+00	
7592E-01	4915E+00	1235E+00	5433E+00	1364E+00	7224E+00	
1061E+00	5373E+00	1331E+00	6667E+00	1450E+00	8915E+00	
1198E+00	6189E+00	1426E+00	8414E+00	1515E+00	9791E+00	
1298E+00	7801E+00	1496E+00	9522E+00	1698E+00	9970E+00	
1397E+00	5313E+00	1903E+00	9990E+00	2000E+00	1019E+01	
1476E+00	1536E+00	25	9	6900E+01	6900E+01	
1566E+00	4910E+00	5960E-01	6925E+00	6900E+01	6900E+01	
1566E+00	5990E+00	9012E-01	6925E+00	9641E-01	6965E+00	
1800E+00	1007E+01	1065E+00	7085E+00	1118E+00	7184E+00	
1000E+01	6325E+00	1237E+00	7622E+00	1282E+00	7920E+00	
325	3	8219E+00	8697E+00	1394E+00	9154E+00	
4996E-01	6925E+00	1423E+00	9811E+00	1473E+00	9950E+00	
7592E-01	6925E+00	1601E+00	9377E+00	1693E+00	9970E+00	
1061E+00	7045E+00	1699E+00	1007E+01	1997E+00	1015E+01	
1182E+00	7363E+00	35	12	5999E+00	5999E+00	
1217E+00	8219E+00	6620E+00	1756E-01	6760E+00	6760E+00	
1423E+00	9532E+00	7018E+00	1885E-01	7237E+00	7237E+00	
1512E+00	9970E+00	8002E+00	2012E-01	8495E+00	8495E+00	
1798E+00	1007E+01	9514E+00	2012E-01	1000E+01	1000E+01	
1000E+01	1007E+01	1098E+01	2012E-01	1150E+01	1150E+01	
324	1	1251E+01	1964E-01	1302E+01	1921E-01	
5000E+00	1734E-01	1400E+01	1798E-01	1449E+01	1714E-01	
8441E+00	1845E-01	1549E+01	1820E-01	1602E+01	1393E-01	
6995E+00	1960E-01	1703E+01	1246E-01	1752E+01	1198E-01	
7460E+00	2012E-01	1849E+01	1119E-01	1902E+01	1007E-01	
8997E+00	2012E-01	2000E+01	1024E-01	5027E+00	1667E-01	
1050E+01	2016E-01	5510E+00	1663E-01	7325E+00	1702E-01	
1201E+01	1992E-01	6982E+00	1687E-01	8197E+00	1762E-01	
1314E+01	1873E-01	7902E+00	1746E-01	9061E+00	1913E-01	
1500E+01	1619E-01	8782E+00	1845E-01	1015E+01	2012E-01	
1652E+01	1310E-01	9809E+00	1903E-01	1119E+01	1992E-01	
1803E+01	1147E-01	1094E+01	2012E-01	1206E+01	1985E-01	
1549E+01	1056E-01	1186E+01	1913E-01	1285E+01	1730E-01	
324	2	1249E+01	1799E-01	1377E+01	1627E-01	
5000E+00	1663E-01	1345E+01	1663E-01	1499E+01	1496E-01	
6509E+00	1675E-01	1455E+01	1536E-01	1652E+01	1361E-01	
7588E+00	1713E-01	1609E+01	1397E-01	1803E+01	1254E-01	
8436E+00	1810E-01	1902E+01	1210E-01	1951E+01	1155E-01	
9403E+00	2012E-01	5510E+00	1663E-01	5984E+00	3770E-02	
1050E+01	1964E-01	6982E+00	1687E-01	7147E+00	3770E-02	
1149E+01	1845E-01	7902E+00	1746E-01	7944E+00	9127E-02	
1227E+01	1690E-01	8782E+00	1845E-01	8494E+00	1567E-01	
1316E+01	1579E-01	9809E+00	1903E-01			
1422E+01	1448E-01	1094E+01	2012E-01			
1544E+01	1321E-01	1186E+01	1913E-01			
1703E+01	1234E-01	1249E+01	1799E-01			
1851E+01	1139E-01	1345E+01	1663E-01			
2000E+01	3770E-02	1455E+01	1536E-01			
326	1	1609E+01	1397E-01			
5000E+00	3770E-02	1902E+01	1210E-01			
6486E+00	5159E-02	5406E+00	3770E-02			
7315E+00	1071E-01	7000E+00	3770E-02			
8127E+00		7590E+00	3770E-02			
		8373E+00	3770E-02			

8445E+00	1745E-01	1709E+00	1325E-01	3945E+00	1375E-01
9171E+00	2044E-01	9394E+00	2081E-01	9522E+00	2103E-01
9801E+00	2103E-01	1001E+01	2083E-01	1040E+01	2083E-01
1097E+01	2083E-01	1149E+01	2063E-01	1197E+01	2064E-01
1244E+01	1964E-01	1246E+01	2004E-01	1267E+01	2044E-01
1290E+01	2103E-01	1310E+01	2202E-01	1340E+01	2302E-01
1371E+01	2560E-01	1396E+01	2798E-01	1421E+01	3075E-01
1449E+01	3353E-01	1470E+01	3849E-01	1518E+01	4365E-01
1550E+01	4762E-01	1570E+01	5159E-01	1601E+01	5556E-01
1626E+01	5613E-01	1651E+01	6190E-01	1692E+01	6524E-01
1724E+01	6905E-01	1751E+01	7143E-01	1787E+01	7461E-01
1831E+01	7579E-01	1869E+01	7773E-01	1903E+01	7957E-01
1945E+01	7996E-01	1977E+01	8036E-01	2000E+01	8336E-01
-327	1	20	7	2000E+01	8336E-01
1120E+02	-1194E-01	1191E+02	-1230E-01	1263E+02	-1246E-01
1154E+02	-1236E-01	1535E+02	-1195E-01	1675E+02	-1062E-01
1802E+02	-5341E-02	1866E+02	-3303E-02	2106E+02	-5669E-02
2249E+02	-4391E-02	2452E+02	-1916E-02	2615E+02	0
2816E+02	-2395E-02	2985E+02	3392E-02	3184E+02	6080E-02
3367E+02	8224E-02	3502E+02	1046E-01	3717E+02	1198E-01
3804E+02	1405E-01	4000E+02	1493E-01	4000E+02	1493E-01
-327	2	23	5	1187E+02	-1741E-01
1006E+02	-1669E-01	1068E+02	-1709E-01	1609E+02	-1629E-01
1307E+02	-1701E-01	1454E+02	-1597E-01	1872E+02	-1036E-01
1752E+02	-1261E-01	1828E+02	-1126E-01	2339E+02	-4152E-02
2110E+02	-7425E-02	2220E+02	-5749E-02	3011E+02	4711E-02
2621E+02	0	2860E+02	2874E-02	3471E+02	1076E-01
3084E+02	6786E-02	3159E+02	9261E-02	3623E+02	1501E-01
3590E+02	1261E-01	3713E+02	1445E-01	4000E+02	4000E+02
3820E+02	1717E-01	4004E+02	1828E-01	1195E+02	-3174E-01
-327	3	25	9	1521E+02	-2818E-01
1004E+02	-3106E-01	1114E+02	-3194E-01	1879E+02	-1948E-01
1287E+02	-3114E-01	1406E+02	-2970E-01	2339E+02	-7904E-02
1805E+02	-2667E-01	1752E+02	-2283E-01	2584E+02	-1517E-02
2031E+02	-1557E-01	2168E+02	-1182E-01	2896E+02	6467E-02
2452E+02	-5110E-02	2522E+02	-3034E-02	3391E+02	1940E-01
2474E+02	0	2763E+02	3273E-02	3672E+02	3210E-01
3049E+02	1046E-01	3266E+02	1493E-01	1191E+02	-2355E-01
3584E+02	2443E-01	3733E+02	2802E-01	1545E+02	-2004E-01
4002E+02	3537E-01	4000E+02	4000E+02	1927E+02	-1293E-01
-327	4	24	8	2361E+02	-5269E-02
1002E+02	-2371E-01	1098E+02	-2387E-01	2840E+02	4152E-02
1303E+02	-2275E-01	1404E+02	-2220E-01	3232E+02	1150E-01
1685E+02	-1764E-01	1838E+02	-1477E-01	3656E+02	1956E-01
2118E+02	-5541E-02	2247E+02	-7345E-02	4000E+02	2579E-01
2747E+02	-3034E-02	2623E+02	0	2893E+00	2187E-02
2977E+02	6627E-02	3113E+02	9182E-02	4607E+00	1054E-01
3349E+02	1365E-01	3490E+02	1629E-01	5902E+00	1531E-01
3781E+02	2196E-01	3906E+02	2451E-01	6987E+00	1431E-01
-328	1	16	6	7862E+00	1074E-01
2003E+00	-6362E-02	2381E+00	-2584E-02	2377E+00	-4771E-02
3514E+00	5964E-02	4094E+00	8549E-02	2977E+00	-9145E-02
5052E+00	1292E-01	5469E+00	1511E-01	3988E+00	-1750E-01
6184E+00	1531E-01	6606E+00	1511E-01	4976E+00	-2425E-01
7456E+00	1292E-01	7715E+00	1153E-01	6017E+00	-2624E-01
7937E+00	5344E-02	22	8	7114E+00	-2366E-01
-328	2	22	8	7830E+00	-2000E-01
2011E+00	-3567E-02	2234E+00	-4970E-02	2377E+00	-4771E-02
2544E+00	-5169E-02	2762E+00	-6759E-02	3988E+00	-1750E-01
3299E+00	-1252E-01	3669E+00	-1531E-01	4976E+00	-2425E-01
4356E+00	-2808E-01	4646E+00	-2306E-01	6017E+00	-2624E-01
5378E+00	-2604E-01	5767E+00	-2584E-01	7114E+00	-2366E-01
6303E+00	-2505E-01	6781E+00	-2485E-01	7830E+00	-2000E-01
7341E+00	-2266E-01	7579E+00	-2207E-01		
7937E+00	-1089E-01				

2019E+00	-0946E-02	2293E+00	-0742E-02	2504E+00	-1113E-01
2675E+00	-1252E-01	2906E+00	-1570E-01	3072E+00	-1919E-01
3307E+00	-227E-01	3529E+00	-2644E-01	3631E+00	-3082E-01
4022E+00	-3300E-01	4273E+00	-3590E-01	4491E+00	-3837E-01
4805E+00	-4135E-01	5123E+00	-4394E-01	5429E+00	-4612E-01
5703E+00	-4751E-01	6200E+00	-4911E-01	6363E+00	-4990E-01
6757E+00	-4831E-01	7430E+00	-6831E-01	7440E+00	-632E-01
7711E+00	-4294E-01	7886E+00	-4135E-01	7995E+00	-3978E-01
-329	1	20	7		
5755E+02	0	6566E+02	-1304E-03	7496E+02	-1394E-02
6426E+02	-2799E-02	9830E+02	-2900E-02	9905E+02	-2769E-02
1076E+02	-2191E-02	1165E+03	-9960E-03	1246E+03	-7960E-03
1332E+03	5960E-03	1406E+03	1594E-02	1502E+03	2390E-02
1575E+03	4382E-02	1628E+03	4183E-02	1723E+03	4163E-02
1800E+03	4183E-02	1863E+03	4781E-02	1906E+03	4781E-02
1950E+03	4900E-02	1996E+03	5179E-02		
-329	2	18	6		
5755E+02	0	6240E+02	-7960E-03	7734E+02	-2590E-02
6410E+02	-3187E-02	9014E+02	-3566E-02	9960E+02	-3187E-02
1097E+03	-1394E-02	1207E+03	-1922E-03	1287E+03	1195E-02
1362E+03	3566E-02	1426E+03	5575E-02	1506E+03	7968E-02
1614E+03	9900E-02	1780E+03	1116E-01	1793E+03	1215E-01
1868E+03	1315E-01	1938E+03	1454E-01	1998E+03	1534E-01
-329	3	17	6		
5882E+02	-1922E-03	6987E+02	-1195E-02	7949E+02	-2769E-02
6990E+02	-4382E-02	9976E+02	-3904E-02	1065E+03	-1793E-02
1200E+03	0	1247E+03	2191E-02	1293E+03	4741E-02
1378E+03	1016E-01	1485E+03	1813E-01	1577E+03	2211E-01
1632E+03	2629E-01	1742E+03	3187E-01	1845E+03	3665E-01
1914E+03	4044E-01	1989E+03	4283E-01		
-329	4	16	6		
5594E+02	0	6987E+02	-7968E-03	7957E+02	-2350E-02
9065E+02	-2980E-02	9976E+02	-2590E-02	1095E+03	-1753E-02
1153E+03	5980E-03	1191E+03	0	1286E+03	1195E-02
1391E+03	1394E-02	1582E+03	7968E-03	1590E+03	0
1700E+03	-1394E-02	1772E+03	-1594E-02	1832E+03	-1992E-02
1895E+03	-3187E-02				
-329	2	44	15		
5000E+00	1567E-01	6375E+00	1409E-01	5641E+00	1349E-01
5288E+00	1270E-01	6239E+00	1131E-01	6494E+00	8730E-02
6761E+00	6548E-02	7147E+00	2381E-02	7347E+00	5952E-03
7506E+00	-3770E-02	7737E+00	-7738E-02	7916E+00	-1151E-01
8086E+00	1868E-01	8263E+00	-1746E-01	8434E+00	-2044E-01
8673E+00	2361E-01	8876E+00	-2718E-01	9095E+00	2857E-01
9378E+00	-3056E-01	9845E+00	-3115E-01	9785E+00	-3115E-01
1030E+01	-3036E-01	1053E+01	-2877E-01	1085E+01	-2738E-01
1122E+01	2440E-01	1156E+01	-2183E-01	1169E+01	2123E-01
1235E+01	-1627E-01	1261E+01	-1429E-01	1290E+01	-1449E-01
1314E+01	-1250E-01	1347E+01	-1111E-01	1379E+01	-9921E-02
1398E+01	5921E-02	1438E+01	-9524E-02	1466E+01	-9325E-02
1496E+01	-7738E-02	1582E+01	-7738E-02	1651E+01	-7738E-02
1722E+01	-7937E-02	1771E+01	-7738E-02	1854E+01	-7738E-02
1505E+01	-7361E-02	2000E+01	-6944E-02		
-329	1	22	8		
1004E+02	-3095E-02	1183E+02	-3333E-02	1297E+02	-3413E-02
1436E+02	-3413E-02	1684E+02	-3333E-02	1737E+02	-3016E-02
1800E+02	-2480E-02	1986E+02	-2063E-02	2114E+02	-1825E-02
2217E+02	-1349E-02	2295E+02	-1190E-02	2637E+02	3175E-03
2964E+02	1032E-02	3177E+02	1746E-02	3329E+02	2063E-02
3476E+02	2580E-02	3612E+02	2957E-02	3679E+02	3333E-02
3755E+02	3492E-02	3863E+02	3651E-02	3930E+02	3810E-02
3594E+02	4206E-02				
-329	2	27	9		
1000E+02	-1643E-01	1048E+02	-1698E-01	1122E+02	-1754E-01
1181E+02	-1778E-01	1217E+02	-1794E-01	1293E+02	-1786E-01
1384E+02	-1746E-01	1440E+02	-1731E-01	1529E+02	-1567E-01

1612E+02	-1579E-01	1699E+02	-1475E-01	1771E+02	-1365E-01
1951E+02	-1230E-01	1844E+02	-1167E-01	1122E+02	-9254E-02
2055E+02	-6825E-02	2313E+02	-5159E-02	2629E+02	0.
2870E+02	3492E-02	2994E+02	5714E-02	3127E+02	.7619E-02
3133E+02	1015E-01	3478E+02	1278E-01	3625E+02	.1540E-01
3779E+02	1770E-01	3800E+02	1960E-01	3994E+02	.2111E-01
327	3	31	11		
1066E+02	-2190E-01	1066E+02	-2286E-01	1143E+02	-2310E-01
1253E+02	-2009E-01	1341E+02	-2365E-01	1438E+02	-2302E-01
1520E+02	-2206E-01	1612E+02	-2079E-01	1707E+02	-1861E-01
1785E+02	-1706E-01	1844E+02	-1508E-01	1960E+02	-1317E-01
2010E+02	-1238E-01	2124E+02	-1024E-01	2217E+02	-9413E-02
2267E+02	-7302E-02	2335E+02	-6032E-02	2400E+02	-4841E-02
2470E+02	-3095E-02	2635E+02	0.	2713E+02	.1825E-02
2803E+02	3492E-02	2906E+02	5556E-02	3036E+02	.8333E-02
3209E+02	1198E-01	3345E+02	1476E-01	3488E+02	.1754E-01
3645E+02	2111E-01	3795E+02	.2421E-01	3920E+02	.2667E-01
4004E+02	2841E-01				
327	4	23	8		
1125E+02	-1808E-01	1187E+02	-1024E-01	1253E+02	-1024E-01
1353E+02	-1024E-01	1440E+02	-9762E-02	1540E+02	-9444E-02
1671E+02	-8571E-02	1821E+02	-7222E-02	1894E+02	-6667E-02
2096E+02	-4762E-02	2237E+02	-3492E-02	2339E+02	-2698E-02
2302E+02	-2143E-02	2635E+02	0.	2859E+02	.2222E-02
2995E+02	3254E-02	3143E+02	4524E-02	3261E+02	.5476E-02
3456E+02	7222E-02	3677E+02	9206E-02	3815E+02	.1048E-01
3542E+02	1175E-01	3998E+02	1230E-01		
328	1	22	8		
1995E+02	5567E-02	2250E+02	6163E-02	2472E+02	.6561E-02
2790E+02	6561E-02	3029E+02	6561E-02	3378E+02	.6561E-02
3780E+02	6163E-02	4197E+02	5567E-02	4559E+02	.4970E-02
4960E+02	4175E-02	5429E+02	2584E-02	5545E+02	.1590E-02
5787E+02	1392E-02	6049E+02	0.	6308E+02	-.5964E-03
6558E+02	7952E-03	6844E+02	-7952E-03	7011E+02	-.9940E-03
7277E+02	-7952E-03	7512E+02	-7952E-03	7790E+02	-.3976E-03
7877E+02	0.				
328	2	28	10		
1907E+02	-1093E-01	2210E+02	-1213E-01	2472E+02	-1233E-01
2766E+02	-1332E-01	2977E+02	-1332E-01	3188E+02	-1352E-01
3366E+02	-1292E-01	3676E+02	-1173E-01	3959E+02	-1133E-01
4241E+02	-1034E-01	4459E+02	-9145E-02	4726E+02	-7753E-02
4936E+02	-5759E-02	5135E+02	-5368E-02	5322E+02	-3380E-02
5457E+02	-2703E-02	5771E+02	0.	5906E+02	.9940E-03
6145E+02	2584E-02	6407E+02	3777E-02	6590E+02	.3777E-02
6777E+02	3976E-02	6955E+02	3976E-02	7182E+02	.3777E-02
7329E+02	3579E-02	7560E+02	.3181E-02	7719E+02	.2386E-02
8001E+02	1193E-02				
328	3	27	9		
1907E+02	-1690E-01	1905E+02	-1789E-01	2464E+02	-1869E-01
2782E+02	-1889E-01	2989E+02	-1869E-01	3307E+02	-1869E-01
3549E+02	-1789E-01	3887E+02	-1690E-01	4157E+02	-1571E-01
4428E+02	-1431E-01	4746E+02	-1173E-01	4952E+02	-.9742E-02
5143E+02	-8549E-02	5457E+02	-4573E-02	5635E+02	0.
5442E+02	3976E-03	6125E+02	1392E-02	6256E+02	.2584E-02
5671E+02	2703E-02	6475E+02	3380E-02	6987E+02	.3380E-02
7182E+02	2982E-02	7393E+02	2982E-02	7568E+02	.2982E-02
7675E+02	2386E-02	7838E+02	1392E-02	7981E+02	.1193E-02
328	4	26	9		
1971E+02	-2107E-01	2198E+02	-2286E-01	2484E+02	-2386E-01
2802E+02	-2545E-01	2977E+02	-2545E-01	3235E+02	-2485E-01
3494E+02	-2425E-01	3812E+02	-2386E-01	4850E+02	-2167E-01
4384E+02	-1849E-01	4730E+02	-1491E-01	5036E+02	-1233E-01
5354E+02	-.8946E-02	5624E+02	-5368E-02	5791E+02	-.2187E-02
5855E+02	0.	5922E+02	9940E-03	6117E+02	.2187E-02
6256E+02	3380E-02	6590E+02	3777E-02	6916E+02	.4175E-02
7446E+02	1766E-02	7900E+02	.3781E-02	7933E+02	.2781E-02

.778E+00	-2.137E-02	.798E+00	.1795E-02	.4936E+02	--3.187E-02
329	1	31	11	.7859E+02	--4.502E-02
.3434E+02	0.	.8086E+02	--1.793E-02	.9332E+02	--2.590E-03
.5771E+01		.6518E+02	--4.582E-02	.1079E+03	.4900E-02
.7838E+02		.9680E+02	--3.584E-02	.1227E+03	.6375E-02
.9817E+02		.1038E+03	0.	.1397E+03	.4522E-02
.1121E+03		.1165E+03	.3386E-02	.1522E+03	.4522E-02
.1280E+03		.1337E+03	.6574E-02	.1685E+03	--4.582E-02
.1437E+03		.1486E+03	.5378E-02	.1820E+03	.1633E-01
.1533E+03		.1626E+03	--1.992E-03	.1957E+03	--2.960E-01
.172E+03		.1778E+03	--1.195E-01		
.1878E+03		.1908E+03	--2.490E-01		
.1994E+03					
329	2	38	13	.4049E+02	--2.390E-02
.3680E+02	0.	.4165E+02	--1.594E-02	.6725E+02	--4.382E-02
.5612E+02		.6104E+02	--4.183E-02	.9332E+02	--3.187E-02
.7536E+02		.8362E+02	--4.183E-02	.1140E+03	.8765E-02
.1002E+03		.1089E+03	.3984E-02	.1246E+03	.2291E-01
.1167E+03		.1202E+03	.1733E-01	.1362E+03	.3606E-01
.1281E+03		.1324E+03	.3187E-01	.1440E+03	.3984E-01
.1393E+03		.1414E+03	.3944E-01	.1525E+03	.3924E-01
.1457E+03		.1496E+03	.3984E-01	.1634E+03	.3227E-01
.1568E+03		.1604E+03	.3446E-01	.1725E+03	.2510E-01
.1672E+03		.1700E+03	.2749E-01	.1862E+03	.1175E-01
.1777E+03		.1819E+03	.1554E-01	.1959E+03	.5976E-03
.1908E+03		.1932E+03	.4183E-02		
.1960E+03		.1996E+03	--3.187E-02		
329	3	48	16	.5016E+02	--2.590E-02
.5847E+02		.4396E+02	--1.195E-02	.6916E+02	--3.765E-02
.5624E+02		.6296E+02	--3.785E-02	.9300E+02	--2.390E-02
.7758E+02		.8585E+02	--3.785E-02	.1106E+03	.9153E-02
.1036E+03		.1075E+03	.4183E-02	.1192E+03	.2729E-01
.1135E+03		.1162E+03	.2171E-01	.1282E+03	.4582E-01
.1215E+03		.1245E+03	.3825E-01	.1362E+03	.5797E-01
.1367E+03		.1335E+03	.5458E-01	.1427E+03	.6414E-01
.1383E+03		.1408E+03	.6335E-01	.1506E+03	.6255E-01
.1457E+03		.1485E+03	.6454E-01	.1572E+03	.5538E-01
.1522E+03		.1548E+03	.5857E-01	.1632E+03	.4462E-01
.1585E+03		.1606E+03	.4960E-01	.1712E+03	.2869E-01
.1664E+03		.1637E+03	.3167E-01	.1790E+03	.1016E-01
.1727E+03		.1752E+03	.1932E-01	.1860E+03	--7.371E-02
.1816E+03		.1839E+03	--1.793E-02	.1955E+03	--3.187E-01
.1901E+03		.1924E+03	--2.371E-01	.1998E+03	--4.522E-01
.1975E+03		.1991E+03	--4.521E-01		
329	4	35	12	.4769E+02	--2.960E-02
.3839E+02		.4189E+02	--1.594E-02	.7878E+02	--3.964E-02
.5382E+02		.6940E+02	--4.582E-02	.1049E+03	.9960E-03
.8083E+02		.9801E+02	--1.594E-02	.1154E+03	.1414E-01
.1087E+03		.1121E+03	.9363E-02	.1285E+03	.3486E-01
.1193E+03		.1238E+03	.2829E-01	.1405E+03	.4861E-01
.1288E+03		.1365E+03	.4542E-01	.1486E+03	.5020E-01
.1328E+03		.1455E+03	.5020E-01	.1606E+03	.4064E-01
.1427E+03		.1558E+03	.4582E-01	.1701E+03	.2869E-01
.1522E+03		.1671E+03	.3267E-01	.1810E+03	.1235E-01
.1639E+03		.1782E+03	.1594E-01	.1917E+03	--4.781E-02
.1727E+03		.2530E-01			
.1862E+03		.1897E+03	--1.594E-02		
.1952E+03		.1995E+03	--1.952E-01		

\*\*\*\*\*  
EYEVIEV //// END OF LIST ////  
EYEVIEV //// END OF LIST ////  
\*\*\*\*\*

# INITIAL DISTRIBUTION

Hq USAF/RDQRM	2
Hq USAF/SAMI	1
Hq USAF/XOXFM	1
AFIS/INTA	1
AFSC/DLCA	1
AFSC/IGFG	1
AFSC/SDZA	1
AFAL/DHO	1
AFWAL/Tech Lib/FL2802	1
ASD/ENFEA	1
FTD/PDXA-2	1
AFWL/NSC	1
AFWL/NSE	1
AFWL/SUL	1
AUL (AUL/LSE-70-239)	2
DDC	2
Ogden ALC/MMWM	2
TAC/DRA	1
57 FWW/DOS	1
USAFTFWC/TA	1
6510 ABG/SSD	1
HQUSAFE/DOQ	1
HQPACAF/DOO	1
Naval Rsch Lab/Code 2627	1
Naval Air Sys Comd/Code 530C	1
Naval Air Sys Comd/Tech Lib	1
Naval Surface Wpn Ctr/Tech Lib	2
Naval Ordnance Stn/Tech Lib	1
Naval Air Test Ctr/Tech Pubs	2
USNWC (Code 533)/Tech Lib	1
Sandia Lab/Tech Lib Div 3141	1
Rand Corp/Library-D	1
TACTEC	1
USAFTAWC/TEFA	1
TAWC/TRADOCLO	1
ADTC/SES	1
ADTC/SD23	1
AFATL/DL	1
AFATL/DLOSL	2
AFATL/DLY	1
AFATL/DLJ	1
AFATL/DLJC	1
AFATL/DLJF	1
AFATL/DLJK	1
AFATL/DLJM	1
AFSC/SDTA	1
ASD/ENESS	1